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# PC GAMER®

PREVIEW

## TCHIA

BODY-HOPPING  
TROPICAL  
PUZZLES

## PIZZA TOWER

FIGHT THROUGH A  
SKYSCRAPER  
MADE OF  
DOUGH

EXCLUSIVE ACCESS

# WARFRAME

DISCOVER A NEW  
ROGUELIKE DIMENSION  
IN THE DUVIRI PARADOX

PLUS: THE 10-YEAR  
HISTORY OF GAMING'S  
WILDEST MMO



HARDWARE

## MECHANICAL KEYBOARDS

DO THEY REALLY MAKE  
PC GAMING BETTER?



### SHADOW GAMBIT

STRATEGY AND  
CURSED PIRATES



### CYBERPUNK 2077 MODS

UPGRADE WITH TOP  
NEW ADD-ONS

FUTURE

ISSUE 369



# FLORIDA INTERACTIVE ENTERTAINMENT ACADEMY

40% Female Enrollment  
Sloan Kiechel '20, too focused bug hunting to look at the camera!



Graduation Time  
Production track graduate Teandre Roberts '21 holding his capstone plaque, Zenko: A Fox's Tale



Grad Party  
FIEA throws a graduation party for each cohort



"FIEA has become a major source of talent for our EA Sports development studio in Orlando, and we've watched many graduates grow to become industry leaders"



Daryl Holt  
SVP / GM  
EA Tiburon Studios

Student Artwork  
Cougar Vehicle by Isabelle Palmer '22



"As an alumni from FIEA, I can confidently say the program set me up for success in the game industry. When we started our internship program at Undead Labs last year, our first stop was FIEA"



Johnathan Wolverton '09  
Director of Development  
Undead Labs



Award Winners  
Summan Mirza '16 and Claire Rice '16 accepting awards for their game The Channeler

"They're such marketable skills - the same interactive production that the students are learning to make a game like Madden is the same process that they use at Lockheed Martin"



Tom Carbone  
Head of Engineering  
Iron Galaxy Studios



Work hard, play hard  
Production Lead Audrey Luce '22 working on a powerpoint presentation for her capstone game Hermea



**MORE THAN 25 HAVE HIRED FIEA**



**DiSTI**  
CRYSTAL  
DYNAMICS

**CN**

**EPIC  
GAMES**

**0 COMPANIES  
GRADUATES**

**MARVEL**

**Nintendo**

**infinity  
ward**

**UNDEAD**

**UBISOFT**

**SONY**

**ROBLOX**

**IRON  
GALAXY**

**BUNGIE** 

#### Industry Tools

Artist Dasha Kudryasheva '22  
using her FIEA provided  
Wacom tablet monitor

#### Student Artwork

Vendor Mech by  
Paxton Klotz '20

“I had zero game development knowledge before FIEA, and the functional skills and experience I gained allowed me to hit the ground running in an internship while still in the program. This quickly transitioned into a full-time position upon graduation. EA allowed me to be truly plug-and-play in the industry”



Blake Battle '12  
Project Lead  
Bungie

#### Teaching Time

Chris Roda, FIEA's  
Technical Art Instructor  
giving some tips

#### Faculty in Action

Nick Zuccarello, FIEA's  
3D Art Instructor

#### Karen McCarthy '13

Senior Character  
Artist @ EA

“All the cool things I've gotten to do are because of this career, and the only reason I have this career is because of FIEA”



Matt Laurence '07  
Engagement Design Dir.  
Embark Studios



**UCF**



# “NOW SEEMS THE BEST TIME EVER TO JUMP INTO WARFRAME”



**ROBERT JONES**

Twitter  
@rnicholasj

**This month**

Threatened the PC Gamer team with the noble art of karaoke if they failed to submit reviews on time.

now seems the best time ever to jump into the free-to-play online shooter, as our huge feature on page 32 excitingly shows.

**ROBERT JONES**  
**PRINT EDITOR**  
robert.jones@futurenet.com



When *Warframe* originally launched back in March 2013, PC Gamer magazine had a then unreleased game called *The Witcher 3: Wild Hunt* on its cover. Fast-forward a decade and PC gamers are not only still playing both these games but, amazingly, great new official content is still being made for them.

And, for *Warframe*, its new *The Duviri Paradox* expansion is an incredibly fitting way to celebrate its 10-year anniversary. Indeed,

## The PC Gamer team



**CHRIS LIVINGSTON**

Twitter  
@screencuisine

**This month**

Soul-jacked a bemused crab to solve a puzzle in *Tchia*, while also evading spooky cloth zombies.



**SEAN MARTIN**

Twitter  
@RemainsToBeSean

**This month**

Fought mutated undead horrors in space daily, also he reviewed the *Dead Space* remake.



**TYLER WILDE**

Twitter  
@tyler\_wilde

**This month**

Injected '90s-style FMV cutscenes into his eyeballs in puzzle game *Grand Inquisitor*.



**JODY MACGREGOR**

Twitter  
@jodymacgregor

**This month**

Wore a set of pixelated 8-bit sunglasses while fighting a giant chicken in *Lost Ark*.

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## 16 TCHIA

Discover the secrets of a tropical island paradise while stealing the souls of animals, solving puzzles and defeating spooky zombies made out of cloth.

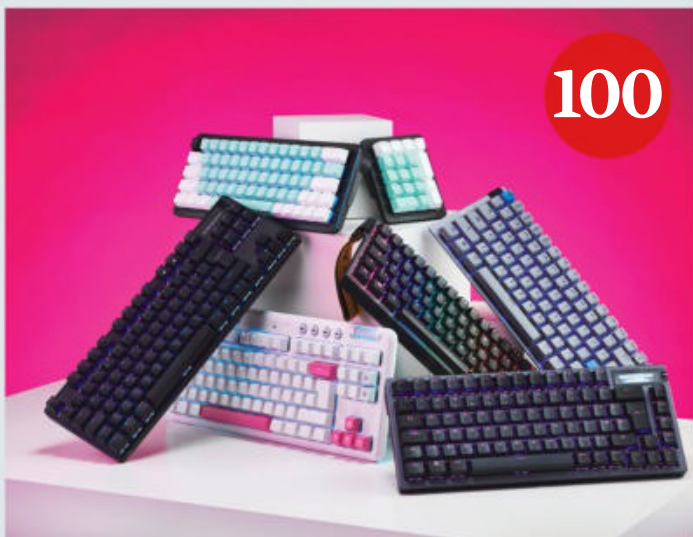
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The inside story on the epic new *Warframe* expansion that turns the game's past into its future.

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## MONITOR

NEW UNION | DEVELOPMENT



## CASHING IN

A **RUNESCAPE** player's approach to grinding saw the game struggling to cope

**T**here's dedication, and then there's dedication. And then sometimes, there's a little bit too much dedication. An old-school *Runescape* player with the handle NC State (presumably not an official representative of the Raleigh-based university) finally sought his reward for grinding an infamous minigame, the Brimhaven obstacle course, for eight years. But without banking the rewards.

Rough math estimates this grind would have taken upwards of 5,000 hours of game time with near-perfect

What is blowing *Runescape* players' minds about this is the Agility choice, a stat they all spurn: but then, maybe that was the point.

play, and all in the same dungeon doing the same few things.

NC State finally brought his journey home, turning in everything and gaining 178 million XP in *Runescape*'s suboptimal Agility skill in less than a minute. This was such a rapid influx that the game's built-in experience per hour tracker couldn't

**THIS GRIND WOULD  
HAVE TAKEN  
UPWARDS OF 5,000  
HOURS OF GAME TIME**

keep up: it tapped out at 2.147 billion even though NC State was getting a rate of 10.8 billion per hour.

Agility in *Runescape* is not exactly the long-running MMO's sexiest skill: it's associated with cool rogue stuff like the Graceful Outfit in-game, but mechanically it just gives you more stamina and lets you access assorted shortcuts throughout the map. One of the primary ways you can level it up is the Brimhaven Agility Arena, a kind of skill vendor minigame.

It involves clicking around a grid-based arena to highlighted pillars and watching cute little skill-check cutscenes of your character walking a tightrope or



BLACKLISTED

## KGB HOLDS A GRUDGE



Nick Katselapov, chief bizdev officer at *World of Tanks* studio Wargaming, has caught the eye of the KGB. The agency added him to the terror list for “financing terrorist activity”, but it was likely revenge for the studio leaving the country after Belarus supported Russia’s war in Ukraine. ■ JW

LADY OF THE RINGS

## ELDEN RING ENDINGS



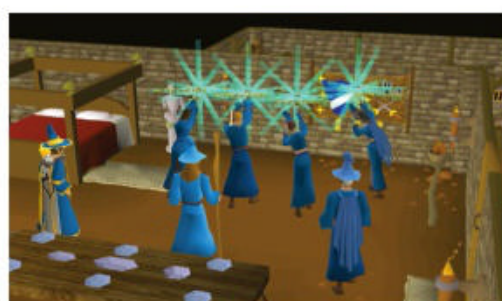
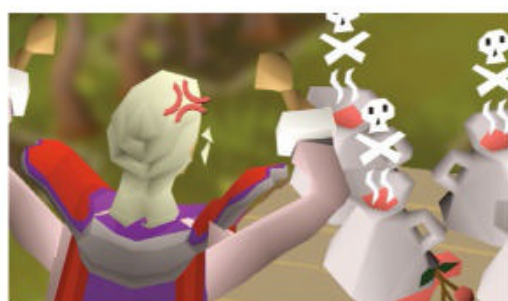
Almost 26% of *Elden Ring* players finished the game by completing the long and complicated Ranni questline, compared to less than 20% who got the standard Elden Lord ending. People will follow a cute From Software waifu to the ends of the Earth given the chance. ■ RV

I'M AFRAID I CAN'T GRADE THAT

## AI 'WRITES' HOMEWORK



Despite teachers cracking down on AI homework help, one student decided to program a 3D printer to produce work written by OpenAI’s ChatGPT. While ChatGPT’s language skills may land them a sub-par grade in English, there’s no doubt this kid’s getting an A in ICT. ■ KW



Training Agility involves running tiny point-and-click obstacle courses on a loop, with virtually no variance or meaningful skill expression.

avoiding bladed traps. It seems like an OK thing to do precisely once. NC State has put in thousands of hours doing it since 2015. This project has spanned three American presidencies.

### AGILE THOUGHTS

To hear NC State describe it, it actually doesn’t sound as bad as all that. “I do want to add that Brimhaven is a leisurely place or at least it can be if you don’t do obstacles while you wait,” he explained in response to user ElMico, who had estimated that this project required a ballpark 4,800 hours. “Many times you’re watching YouTube, reading news, browsing the web, etc. I almost never was on my computer for the sole purpose of doing agility but I almost always had *Runescape* up whenever I was on.”

So less a question of raw will and endurance, more patience and commitment. Like tending a garden. After all those years of work, What benefits can NC State expect from a godly 200 million agility XP, then? Stamina that never drains? Forbidden über-secret shortcuts? Well, for all practical purposes *Runescape*’s skills cap out at level 99 or only 13 million XP, so this was all for the bit. Fair enough NC State, though I gotta wonder what he’s gonna have on in the background while watching YouTube now. ■

Ted Lichfield

## Highs & Lows



### HIGHS

#### King John

As Meta announced the closure of Echo VR, industry legend John Carmack got mad about games disappearing forever: “I believe in saving everything.”

#### Deepest Rock

*Deep Rock Galactic* is letting players experience the OG version.

#### Stadia shutdown

Google’s cloud gaming device is dead – but it refunded everyone.

### D& no D

Wizards of the Coast has tried to screw companies making D&D things under the traditional open game licence.

#### Uri Git

A card was returned to the *Pokémon* game after Uri Gellar admitted “I was a fool” to sue Nintendo.

#### The new blue

*The Day Before*, has had a delay, a bad reveal, the dev blaming everyone.

### LOWS





# Special Report

PCG INVESTIGATES



## LOST IN STEAM

**RETRO GAMES** are added to Steam every month—so why is no one buying them?

**D**warf Fortress sold almost half a million copies in under a month when it launched on Steam last December. Bubbly 2D farming/life sim *Stardew Valley* currently clears 30,000 concurrent users a day even at off-peak times. *Carrion*, a small Metroidvania where you play as a faceless monster trying to escape a secret facility, has garnered over 17,000 positive reviews. There are indie hits on Steam all the time, yet the classics they're often inspired by—some of the best, most timeless games ever made—keep arriving on Steam to less fanfare than a new piece of *Euro Truck Simulator* DLC.

The passage of time has made crystal clear just how truly great some of these '80s and '90s games are. No game in Taito's *Puzzle Bobble* series has ever surpassed *Puzzle Bobble 2X*'s sublime *Tetris*-like balance between simplicity and complexity. *Realms of the Haunting* is pretty much first-person *Resident Evil* years before first-person *Resident Evil* existed. *Twinkle Star Sprites* is a wild sugar rush of a cute/competitive puzzle-shmup that's exactly as brilliantly bananas as it sounds.

But these oldies are swiftly lost to the depths of Steam and only found by a few people like me who already know what to look for. A recent example is *Elevator Action*

*Returns*. The only other PC release for this action-platformer bursting with *Die Hard*-level setpieces was 17 years ago. At its peak on Steam, *Elevator Action Returns* hit ten concurrent players.

Why are these games so overlooked? PC players have proven, over and over again, that we will listen when niche developers explain their nigh-unmarketable ideas to us. But the publishers responsible for these semi-secret releases must dare to imagine we're interested. Heck, we need them to imagine an audience at all. *Elevator Action Returns*' publisher tweeted about the game just three times in English, and not a single one of those tweets was on launch day. Who wouldn't miss a game advertised like that (if you can even call three tweets advertising)?

Retro game Steam descriptions are filled with dry Wikipedia-level trivia that might as well be saying 'if you're not already in the know, run along and stream something with ray-traced loot boxes on your TikToks'.

Why treat these games purely as historical artifacts when they still offer unique experiences we can't get anywhere else? How many shmups dare to stick a digitized photo of a cat in their bullet-dodging climax like 1991's *Metal Black*? How many platformers let you use springy fishing lines as your primary mode of transportation like the charming *Umahara Kawase*? The focus is all wrong, and all of our Steam libraries are worse



### S-Tribute?

The S is for Saturn. Tokyo-based retro publisher City Connection teamed up with Taito in early 2022 to re-release a selection of revered Sega Saturn games from the mid '90s polished up with some modern emulator niceties like rewind, save states and scanlines. Most of them were last released in 2006, making these revivals a long time coming.





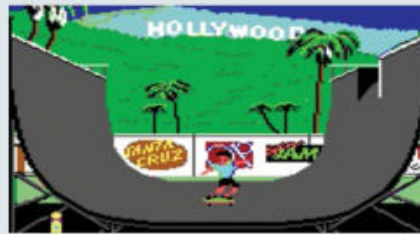
**FAR LEFT:** Let's hope *Dead Cells* handles Konami's marketing from now on.

**LEFT:** The other best puzzle game of all time.

## ARCHIVAL PIXELS *Retro publisher Pixel Games UK has amassed quite a collection of classics on Steam*



**INTERNATIONAL TENNIS OPEN**  
PC Gamer called this "a shining example of what multimedia entertainment should be" way back in December '94.



**CALIFORNIA GAMES**  
The sickest sports of 1987: BMX, skateboarding... and also 'footbag'. We don't talk about footbag.



**ROGUE**  
The random dungeon crawler that's literally where the term 'roguelike' came from.



**ACTUA ICE HOCKEY 2**  
Hockey games are still rare on PC today, and this one has impressive motion captured animation for a 1999 game.

off for these artificial boundaries set up by publishers selling games that we *might really like*, if they'd let us in.

Pixel Games UK, for example, sells fresh ports of some of the Atari Lynx's finest games—so it's a shame to see them use their one chance to reach out wasted on mini history lessons. They bizarrely even include self-effacing blurbs like "The Ultimate in Tennis Simulation! (In 1994, anyway!)", undercutting what could still be a fun game.

Even larger publishers often fall into the same retro rut. Konami's *Castlevania Anniversary Collection* seems to think generic phrases like 'timeless classics' are all it takes to sell us on the broody whip-based adventures within. This sigh of information is in stark contrast to *Dead Cells*' upcoming *Castlevania* DLC page, the text bursting with enthusiasm for gothic castles filled with Dracula's minions.

These words matter, because they're all these games have left once the meager social campaigns have ended. Age doesn't make a game less relevant on Steam, but treating it like it's only relevant *because* of its age does.

It's really no wonder we spend our time and money on retro-in-every-way-but-age games like *Hyper Gunsport* instead. It succinctly describes itself as "cyberpunk volleyball with guns" rather than rushing in with a mini history lesson on Data East's spiritually similar *Windjammers*. *Celeste* openly revels in its difficulty; *Undertale* doesn't preemptively apologize for its consciously crude monochrome battle art and simple pixelated world, "In this RPG, you don't have to kill anyone," is the first line on the game's website, and the

first feature listed on its Steam page. *Undertale* assumes we're intelligent and curious, and believes it has something interesting to offer everyone, not just those who remember *EarthBound*.

### RETRO FIT

Retro games—no, let's just call them what they are: *games*—don't have to graphically compete with headline releases or offer novel avant-garde concepts to gain our attention. Just look at the runaway success of *Vampire Survivors*, a game that's pretty much 'shoot things, then shoot more things, repeat until it's five in the morning'. But their publishers do have to start looking past the end of their low-poly noses if they want more than a few crumbs from the gigantic PC gaming pie, because their continual inward focus on value and retro obviously isn't working out for any of us.

These games are one current part of the wider gaming world we all participate in, yet their publishers insist on presenting them as a withered offshoot. Steam is a haven for offbeat 2D games stuffed to the brim with unusual ideas and 3D adventures happy to show off sharp edges and dithered textures. It's where these games find their feet and their fans—fans like us. Fans who share and stream our best moments, who rope our friends in for a quick online session and turn our tiny pixel people into elaborate fanart. It'd be great if these old games could join in on our fun, instead of voluntarily gatekeeping themselves into irrelevance. ■

**Kerry Brunskill**

## WHY TREAT THESE GAMES PURELY AS HISTORICAL ARTIFACTS?



# Secret Level

THE UNSUNG HEROES OF DEVELOPMENT

## CODE OPEN

Freelance programmer **LUKAS DONKERS** on the art of coding gameplay into our games

**T**here are multiple ways to become a full-time game programmer, but Lukas Donkers essentially did it by... programming a game. A very successful one, for the Ludum Dare game jam: “We made a physics puzzle game [...] we called it *String Theory*, because your only interaction was moving lines around.”

This was something he made with fellow students during his computer science degree. It did very well in the jam, with plenty of positive feedback, so they went on to upload it to free game websites such as Kongregate and Armor Games. Within a few weeks it had been played over 100,000 times, with a huge amount of encouraging comments. “That’s why I always kind of put it at the top of my resume,” says Donkers. “Game companies do love seeing that kind of stuff.”

This practical application of his skills helped Donkers earn a place at Moon Studios as his first industry job, working on *Ori and the Will of the Wisps*. “I worked on the time trial mode, a lot of the bosses that are in the game, and a lot of tooling as well. Like, when we made the cinematic for E3, that was actually all in the editor.” But when it comes to gameplay, what actually *is* programming?

“So you might know that games run at 60 frames per second,” says Donkers. “That doesn’t just talk about the graphics, it’s actually also talking about how often the logic in the game runs. You could say for example, the character moves one pixel to the right. And since that is happening 60 frames per second, that character is going to

be moving smoothly across the screen. Because you wrote that one little line of code, you could expand that and you could say, ‘We’ll only do that if the player is holding the right arrow key’. You can expand that again, add the left arrow key, maybe add a jump to the up arrow key. Bit by bit, every line you write is essentially going to add a little bit of logic to the game. It ends up being a lot of stuff interacting with each other and that ends up being a huge system. But in the end, it’s all composed of individual lines of code that do very simple things.”

### TOP RATED PROGRAM

A programmer will work with the designer to ensure that what’s there is

actually fun to play, a process that begins with prototyping and continues throughout the process. “I might try something. And then I would give it to a game designer. And they would say, ‘Well, can you change it a little bit like this? Or can you maybe add this feature?’ and a lot of work gets thrown away just because it ends up not being fun, but [the prototype is] really just a testbed. Nothing has to look good, it’s just about getting a feel for things.”

It’s when the prototype stage is finished, and a publisher and/or funding has been secured, that everything is polished. “It starts from the stage of like, ‘Hey, let’s just figure out what the hell we’re actually doing,’ to making it optimized, bug free. Integrating it with art and actual levels. So for example, you might have the start of a mechanic that initially is fun, but you don’t know where in the game it’s going to. It’s going to be important. So this is where you work with a designer and they might say well, we’ll put it in world two, but that means we also need some harder enemies to go with it.”

There are often multiple ways to code the same thing, something that Donkers has seen when porting finished games from one format to another. “It’s hard enough to ship a game. Sometimes players are like, ‘Oh, these coders, they can’t even fix a single bug.’ I’ve been in the trenches. I know how maybe that one bug didn’t get fixed because 200 other bugs *did*. [...] Getting it done at all is a huge achievement. I will say that to anyone, if you’ve managed to finish a game, be proud of yourself, because not just anyone can do that.” ■

**Luke Kemp**

### GAMING THE SYSTEM

*Try running a whole development studio*



#### GAME DEV STORY

Simple, but that’s part of its charm, as is the fact it doesn’t take itself too seriously.



#### GAME DEV TYCOON

Full of humor and that elusive one-more-go juice, it’s earned its positive Steam reviews.



#### MAD GAMES TYCOON 2

Currently in Early Access, a sandbox mode was added for full gameplay customization.



#### SOFTWARE INC.

This sim is developed by just one person. Life and art caught in an eternal feedback loop.

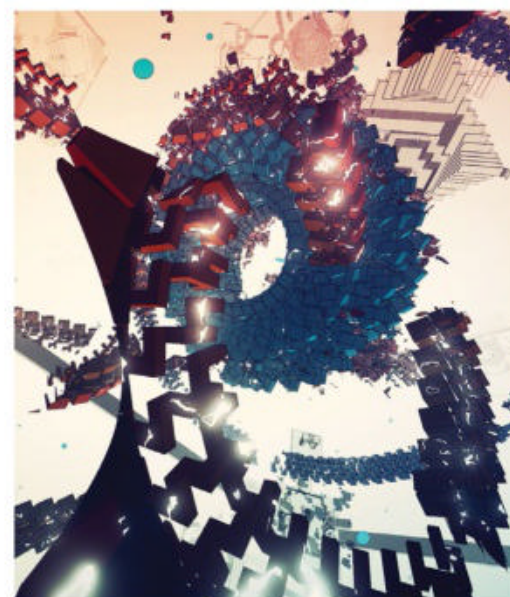




**“IT’S ALL COMPOSED OF  
INDIVIDUAL LINES OF CODE  
THAT DO VERY SIMPLE THINGS”**



Imagine having *Ori and the Will of the Wisps* on your CV as your first job.



**ABOVE:** Donkers also worked on *Shadow Point*, a VR puzzler narrated by Patrick Stewart.

**LEFT:** *Manifold Garden* is visually complex, but was no more difficult to program than other games.





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## NEED TO KNOW

RELEASE  
2023DEVELOPER  
AwacebPUBLISHER  
In-houseLINK  
[awaceb.com/tchia](http://awaceb.com/tchia)

## TCHIA

Explore a beautiful tropical island  
filled with magic

**I**'ve solved puzzles in adventure games by using a crab before, but I've never solved a puzzle by becoming one. But when I need to cut a chain in *Tchia*, that's just what I do. I soul-hop into a crab and use its (now my) pincers to snip the chain. Neat!

That's just one instance of the useful soul-jumping magic on display in *Tchia*, an open world adventure from developer Awaceb. The game is heavily inspired by the island of New Caledonia in the southwest Pacific Ocean, where the co-founders of Awaceb grew up. In the beta I'm playing I've got access to only one of the game's three islands, and while exploring a third of a game world seems like it would be restrictive, the island I'm on is genuinely massive. It's also stunning to look at, a lush and tropical world with beaches, forests, mountains, rivers, villages and camps, hidden grottos and caves, and it's packed with all sorts of beautiful wildlife like deer, boar, lizards, a number of different kind of birds, plus aquatic life like fish, sharks and sea turtles.

Thanks to my magic soul-transferring powers, I can become any of those animals, at least briefly. All I need to do is get close to a creature and I can leap into its body. If it's a bird, I can take flight, if it's a turtle I can swim, and if it's a deer I can thunder across the landscape much faster than my human legs can carry me. The magical

possession only lasts until Tchia's soul meter runs out, but while that's maybe 30 seconds or so, it's plenty of time to have fun and even solve a few problems.

## SOUL SURFER

Often these animals I briefly possess have abilities I can use, like the crab I possessed to cut that chain. But that's just the start. One quest required me to find a chicken egg, but even after finding a small farm with a bunch of chickens strolling around, I wasn't sure how to acquire an egg from one. I tried talking to the farmer, I searched the area near the chickens, but I was stumped until I remembered, oh yeah! I can become a chicken. I zapped my soul into one of the chickens and sure enough, I could click the mouse button to lay an egg. It was cracked—that's the risk with carelessly firing an egg out of your butt, I guess—but I could still zip my soul back out of the chicken, become human, pick up the egg, and put it into my backpack. Mission complete.

Other animals have skills I haven't found a use for yet, but I'm confident I will. Possess a bat and you can use night vision while flapping around on your leathery wings. Both dogs and wild boars are able to dig holes in the ground, which I'm sure will be useful at some point—I just need to find the right spot to dig. And I'm sure becoming a sea creature will lead to some undersea discoveries once I have more time to explore the depths of the ocean surrounding the island I'm on. One bird I possessed could poop at will when I clicked the mouse... I'm not sure if that's a skill I'll need or if it's just a gag, but either way it's fun to do.

## GETTING AROUND

If that's not enough, Tchia can possess not just living creatures but also inanimate objects, though once she's soul-hopped into a rock, lantern, barrel, or coconut, those objects definitely become animated. Don't want to risk climbing down a steep cliff? Just leap Tchia's soul into a nearby rock and roll yourself off the edge. Rocks can handle long falls, even if people can't. And you don't even need a particular reason to possess something: rolling down the road as a barrel is fun on its own. Possession is also handy for taking on

PLAYED  
IT

**ONE BIRD I POSSESSED  
COULD POOP AT WILL  
WHEN I CLICKED THE MOUSE**



» Maano, the villains of the island. The Maano are weird, spooky humanoids made of fabric that can be found in small camps around the island, sort of like cloth zombies. They're pretty slow, but they'll fling scraps of fabric at you, which will tangle you up, requiring you to hammer the space bar to escape. To defeat them you need to set them on fire, which is where the possession skill helps. Sure, you can grab nearby lanterns or gas cans, hold them over your head, and fling them at the cloth zombies, but it's far more effective to possess a lantern, fling yourself at a Maano, then de-posses it just before it hits. Boom! The lantern will ignite the enemy as you safely leap away in your own body. With some possession practice you can take out a camp of Maano in a matter of seconds, burning the creepy, clothly ghouls to ash.

### SOUL-HOP

And don't think for a minute that Tchia needs to soul-hop into birds or dogs or fuel cans to get things done: she has plenty of talents herself, especially when it comes to traveling across the island. She can slide down steep hills, gently soar through the air with a glider (until her stamina runs out), and even clamber to the top of a tree, rock it back and forth, and fling herself from it like a catapult. With the soul-jump and her natural traversal skills, Tchia is like Spider-Man crossed with Corvo Attano, only, you know, she's a sweet little kid. Once I've got some practice with her skills and powers, the island quickly transforms from a beautiful view to an acrobatic playground.

Just one example: while at the top of a mountain I spotted a tiny seaside town along the coast, far off in the distance. I leapt off and sailed in the town's direction using my colorful glider, but as my stamina ran out I was still far, far above the ground. I soul-jumped into a passing bird, flapped my wings to cover more distance, but was still pretty high up when my soul-meter started running low. I leapt back into human form, fell for a while, then spied a rock on the ground, which I soul-jumped into. Bingo. I was now safely on the ground and had nearly reached the distant town in under a

minute, while it would have taken ages to get that far on foot.

### MYTHIC QUESTS

Tchia's goal isn't just exploring for the fun of it (though there's plenty of that). She is searching for her father, who has been abducted by an evil tyrant named Meavora—the same guy who animated those creepy cloth zombies. And while searching for her dad, there are plenty of other quests to complete, some given by other inhabitants of the island. In fact, the beta began with a woman getting my attention by firing a rifle in the air—a pretty alarming moment considering Tchia is just a little kid.

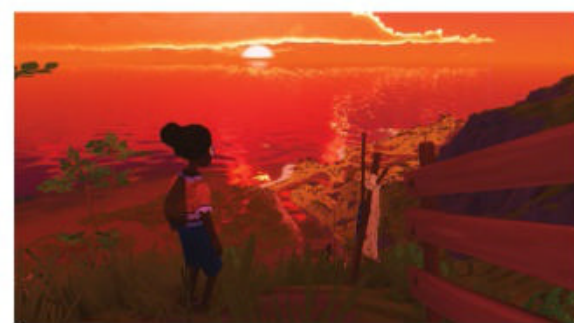
But it turns out this gun-toting villager just wanted me to find her a crab to cook for dinner, which I eventually did (it might have even been the same crab I possessed to snip that chain). Once I deliver her crab, she invites me to dinner, and during a cooking minigame I bond with her daughter, who is about Tchia's age. Despite the jarring gunshot that started this relationship, it turns into a sweet and gentle friendship and there's a nice moment of community after dinner where I play my ukulele with other musicians while the townsfolk dance.

### HIDDEN TREASURES

Also helping me forget that this woman fired a gun in my vicinity is the fact that she rewards me with a treasure map, my number one favorite item in open world games and the perfect excuse to explore more of the vast island. At a dock on the coast I help myself to a raft, raise the sail, and cruise around the blue waters of the island looking for the landmark shown on the map, which takes me to a treasure chest... which contains another map. In fact, it leads to a chain of treasure hunts, which not only provide me with new maps but a story that gives me more details about the island's troubled history.

Despite several long sessions of the *Tchia* beta ranging all over the single island, I feel like I've only found a portion of the mysteries and wonders it hides, and I can't wait to dive in completely when *Tchia* releases later this year. It feels like a love letter to the real-life island, packed with details about its people and culture—even the voice actors are locals of New Caledonia. I'm eager to keep exploring the beautiful and diverse world and uncovering more of its treasures.

*Christopher Livingston*



Tchia can glide over the island... as long as she has stamina.

## TCHIA IS LIKE SPIDER-MAN CROSSED WITH CORVO ATTANO, ONLY SHE'S A KID





**ABOVE:** Secret grottos and caves give you new places to explore.

**LEFT:** Campfires are places to rest, change clothing, and jam.



## NEED TO KNOW

RELEASE  
Q2 2023DEVELOPER  
YYZPUBLISHER  
Different TalesLINK  
[differenttales.com/havendock](https://differenttales.com/havendock)

## HAVENDOCK

Build a thriving town on the ocean in this cosy colony sim

**Y**ou wake up on a tiny island in the middle of the ocean. Your first impulse might be to escape, maybe by crafting a boat. But if you're playing *Havendock*, escape is the last thing on your mind. Don't flee the ocean. Live there by building an entire town on it.

At first *Havendock* feels a bit like survival game *Raft*: I'm standing on a few tiny squares of wood with water all around me, and I need to grab floating leaves, wooden planks, and fish from the ocean to use for resources. Unlike *Raft*, though, my base isn't moving through the water but anchored to the tiny sandy island I woke up on.

## BUILDING

Soon I'm able to build more sections of dock, and the space quickly becomes filled with crafting stations. I set up a pump to draw seawater up to the dock, and a purifier to make it drinkable. I build birdhouses to attract feathered visitors which will give me seeds for farming plots, and feed them fish in return. (Don't tell those friendly birds this, but I also built a steel trap to catch different birds to harvest for feathers and bones.) I burn wood for charcoal to power cooking stations, and a research table lets me open up new tech like smelting. Every scrap of spare wood lets me extend my dock further to make more room and try to build my way over to other tiny islands and structures nearby. I see one across the water that has chickens. I want them.

## PLAYED IT

## IT'S NOT ALL SMOOTH SAILING: A FEW OF MY SETTLERS HAVE INJURED THEMSELVES

It's not long before a curious NPC sails over on a tiny raft. He's interested in joining my colony, provided I build him a house. I don't even have a house myself yet, but I research the new building and add it to the dock while he waits. Once he's settled, I assign him to pump water. And that's where I discover one of the great things about *Havendock*: making settlers do all the chores I don't want to do myself.

Pretty soon I've got five settlers living on my sprawling dock and I'm making them do the stuff I'm not interested in. One is building up my steel and glass resources by scuba diving to the sea floor to gather ore and sand, and then feeding it into my forge and hammering it into shape. I've got another settler on seed duty so I can have my farms growing fresh food without needing to supervise them. I've assigned someone else to cook meals for everyone. It's a pretty good system where I can run around building, crafting and expanding without getting swamped in other chores that others can do.

## INJURIES

It's not all smooth sailing: a few of my settlers have injured themselves in the course of the workday, and I myself was struck by lightning, right in the dang head, during a rainstorm, which puts researching herbs and medicine at the top of my to-do list. There's some enjoyable silliness in *Havendock*, too. When I need raw meat I don't raise livestock and butcher them, I just grow burgers in my garden. Complete hamburgers! With buns and cheese and everything, growing right out of the soil. It doesn't make sense, but it's pretty darn charming, as is just about everything else in *Havendock*.

There's also a lot I haven't seen yet: the full game will include underwater systems for pumping oil, and rowboats and submarines for exploring areas beyond the town. I'm really enjoying the colony builder so far, and I'm especially impressed that it's the work of solo-developer Yeo Ying Zhi (aka YYZ). *Havendock* is due to launch into Early Access in Q2 of 2023.

*Christopher Livingston*



It wouldn't be home without a few pets.





**ABOVE:** Turn a tiny dock into a charming little town.

**LEFT:** Create supply chains, and assign settlers to work them.



## NEED TO KNOW

RELEASE  
2023DEVELOPER  
Mimimi GamesPUBLISHER  
In-houseLINK  
[shadowgambit.com](https://shadowgambit.com)

## SHADOW GAMBIT

The *Desperados 3* team wants you to lead an undead pirate crew

**A** third of the way through *Desperados 3*, the Wild West gets a bit weird. There's magic! Animal possession. Mind control. Living creatures can be linked together *Dishonored*-style. These occult shenanigans are a consistent highlight and demand a follow-up. *Shadow Gambit: The Cursed Crew*, the team's latest project, is more than happy to oblige.

This is the golden age of piracy, but not as we know it. In this alternate history, death has taken on a new meaning for the pirate crews that sail the high seas. In a nod to *Pirates of the Caribbean*, Captain Afia is on a mission to gather a crew of undead ne'er-do-wells, using magical artifacts known as Black Pearls to transform them into their best selves—all in an effort to pull off a big heist and thwart the forces of some anti-magic killjoys: the Inquisition of the Burning Maiden.

## DEAD SEA

The foundation established in *Shadow Tactics* back in 2016—itsself a riff on the classic *Commandos* series—remains intact. You'll command your crew of undead pirates in real-time missions, viewing the action from a top-down perspective, all while avoiding guards with their large but easily-obscured vision cones. Completing the tricky missions necessitates creative use of your crew's eclectic abilities, as well as the environment itself, and save scumming is very much expected. But this new setting

## FIRST LOOK

brings with it a lot of new ideas and twists on familiar mechanics.

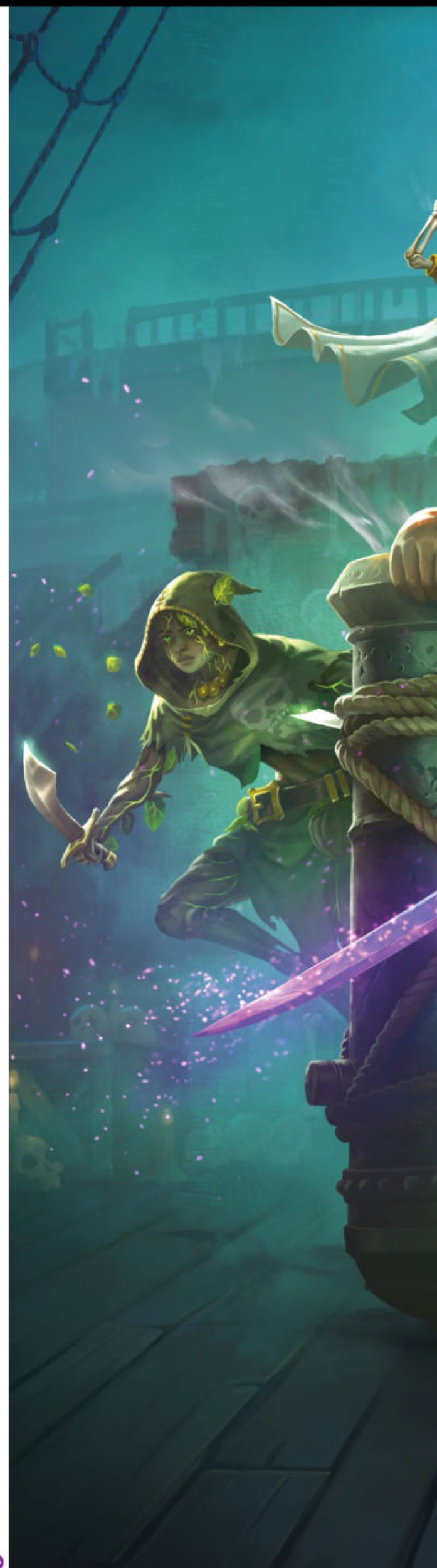
"In our previous games that had a more realistic setting, we were super limited in what we could do in terms of the character skills, the mechanics and gameplay," says communications lead Matthias Kraut. "But now with *Shadow Gambit* we go full fantasy and magic; this means we have ghost ships, a magical world and cursed pirates with supernatural abilities, which gives us a lot of freedom to design meaningful, crazy new mechanics."

Take Captain Afia, for instance. She's got a sword embedded in her chest, which she can rip out to let her ignore the rules of space and time, dashing forward to impale enemies in the blink of an eye. Other crewmates include Mr Mercury, a skeleton with a magical anchor that opens up portals to the Shadow Seas, effectively letting him hide from enemies whenever he wants or teleport to hard-to-reach places. His best friend is a fish, Sir Reginald, who also lends a fin by distracting enemies. Then there's Gaëlle, who carries around a big cannon that can suck up and launch both allies and enemies. On their own, these abilities seem pretty damn handy, but they're also designed to synergize with the abilities of their crewmates, letting you pull off elaborate attacks all at once, solving multiple problems in one fell swoop.

This is where your ship comes into play. The Red Marley is a ghost ship—you can tell because it's covered in bones and has an ominous glow—with a living soul, and along with being your mobile HQ and an important character in her own right, she can also help out during missions. While *Shadow Gambit* is a real-time affair, through The Red Marley you can freeze, speed up and reset time. Along with giving you opportunities to set up some flashy moves, this also serves as *Shadow Gambit's* take on save scumming.

## CAST AWAY

"The fantasy magic aspect allows us to change the whole flavor and the narration around the quick-save, quick-load mechanics," says Kraut. Instead of being a mechanic that exists outside of the game-world, it's firmly embedded in the story. "The characters will even react to



## COMPLETING THE MISSIONS NECESSITATES CREATIVE USE OF YOUR CREW'S ABILITIES



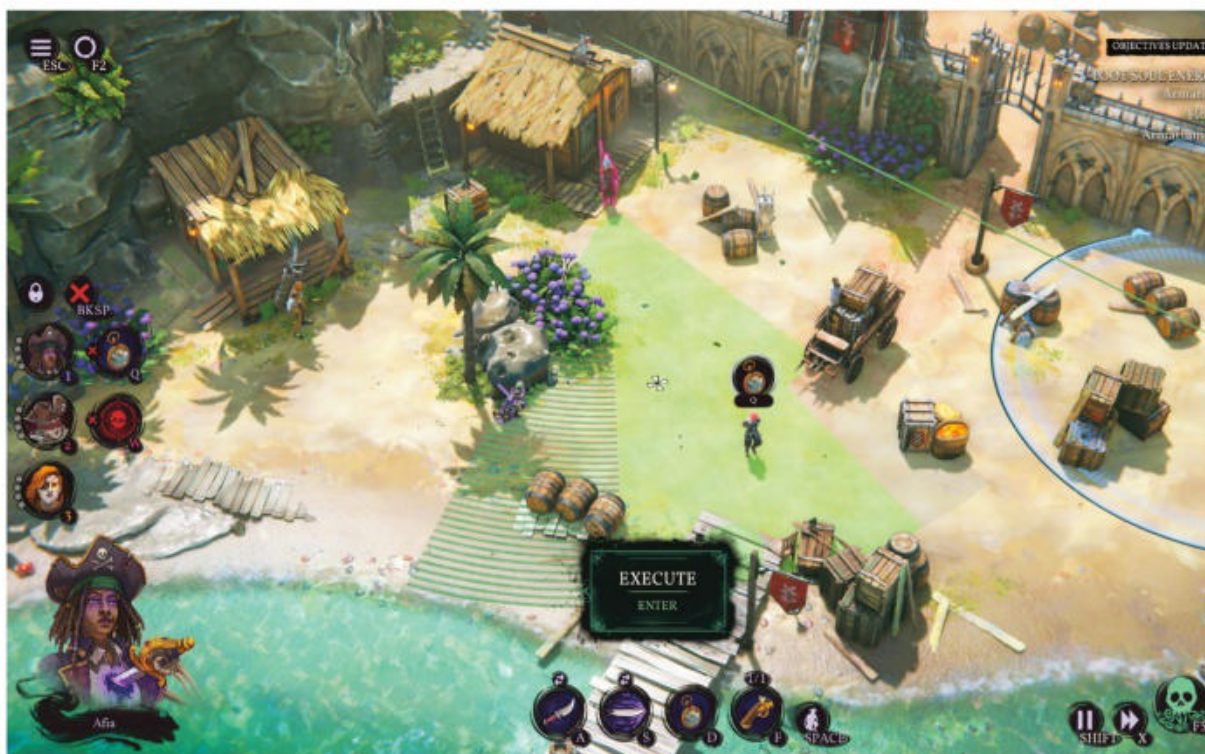




## Shadow Gambit

**RIGHT:** Beaches are probably great for hiding dead bodies.

**BELOW:** Is it a real pirate adventure if there aren't ominous skulls everywhere?







» you using that feature. So, for example, if you're in a challenging situation and you have to rewind the same moment in time with The Marley's power very often, a character might comment on this, or perhaps cheer you or themselves up in that situation."

Mimimi has always encouraged liberal use of save scumming, which in turn encourages experimentation and gives you a more manageable route to a flawless run. Here, though, that support is so much more overt. And there's no limit to your use of these powers.

"This is the same as in *Shadow Tactics* and *Desperados*," says creative director and studio founder Dominik Abè. "It's unlimited and there's no penalty. We think it's a core aspect of those types of games." Even as a hardcore stealth fan, Abè sees this mechanic as essential, especially if you want to get through a mission without being spotted once. "For that you really need to reload. We think it's really liberating to just do that as often as you want and just experiment and come up with crazy ideas. So there's nothing we want to punish there. And those games are still super challenging, so there's nothing we think takes away the fun—we think it's really increasing it."

It's another tool in your arsenal rather than a crutch. But it's not the only way to get out of a tricky situation. "I love it that I'm not forced to quick-load again because I messed something up," says Kraut. "I feel like now I can just be like, 'Let's see what happens—I can still get out of this situation when I get discovered.' For example, with Mr Mercury and his anchor you can just hide underground and maybe wait until the alert is over."

Controlling a mobile HQ also means that the traditional linear series of missions is out, replaced by something significantly more flexible. While the story is split up into multiple acts, you can tackle missions, visit islands and unlock crewmates in whatever order you fancy.

### ISLAND GETAWAY

Islands contain multiple missions, undertaken one at a time. Within those missions is even more flexibility. It's up to you where on the island you want to begin

the mission, and when you first arrive you won't have to immediately pick the crew members that you bring with you—you can do a bit of scouting first. Abè offers an example where you might notice a lot of watchtowers, which might inspire you to bring a sharpshooter along.

Each island promises to be a chunky sandbox with no predetermined best route. And while *Shadow Gambit* is absolutely a stealth game, it's not one where you will be forced to be as silent as a ghost. While the studio's previous games have allowed you to approach certain situations with guns blazing, an aggressive playstyle seems even more viable here thanks to death becoming somewhat inconsequential. Losing a crewmember is only a temporary setback, since these walking corpses can be revived.

This more aggressive approach to stealth, and the roguishness of the cast, does mean one system from *Desperados 3* has fallen by the wayside: social stealth. Mimimi's cowboy sequel introduced neutral areas where the party could wander around looking for opportunities for mischief without being constantly harassed by enemies. Conceptually it was great, but there wasn't much room for experimentation. I would have loved to have seen it developed more, but I can understand the team's desire to move onto new pastures.

### SHIPSHAPE

If you still crave moments where you aren't being hounded by the Inquisition, there's always the ship. While you're hanging out on The Red Marley, you can chat to your crew and get to know them better—a bunch of undead weirdos are bound to have some good stories to tell—or just explore the ship herself. "The Marley is bigger on the inside—way bigger—so there's some stuff to do there," says Abè. It's slightly evocative of *Mass Effect*, and this isn't the only nod to RPGs. Your crew's personal stories also lead to unique, character-driven missions, because what is friendship if not a willingness to commit some thefts, murders or piracy on your pal's behalf?

Mimimi could have offered us more of the same and I would have absolutely been content, but *Shadow Gambit* appears to be jam-packed with novelties and playful twists. We'll see if it all pays off later this year, but in the meantime it sounds like it has the potential to be the studio's best stealthy adventure yet.

Fraser Brown

**EACH ISLAND PROMISES TO BE A CHUNKY SANDBOX WITH NO PREDETERMINED BEST ROUTE**





**ABOVE:** There doesn't seem to be any combat, parkour, or QTEs in this one, which is a relief.

**RIGHT:** Sherlock Holmes & The Case of the World's Worst Fishing Holiday.





*Sherlock Holmes: The Awakened*

## NEED TO KNOW

**RELEASE**  
Early 2023**DEVELOPER**  
Frogwares**PUBLISHER**  
In-house**LINK**  
[sherlockholmes.one](http://sherlockholmes.one)

# SHERLOCK HOLMES: THE AWAKENED

The world's most iconic detective cross-examines an evil doll

**A**fter 20 years and nine *Sherlock Holmes* games, Ukrainian studio Frogwares has established itself as the champion of making games about one of literature's stuffiest Englishmen. The course of the series hasn't always run smooth, but that's never stopped Frogwares. It may be that nothing can stop it, as it's making its latest game in an active war zone.

After a Kickstarter last summer to shore up funds, the studio has been hard at work on *Sherlock Holmes: The Awakened*, a full remake of a game it first released in 2007. The idea is that it's a smaller, faster project the team can focus on amongst the chaos of the Russia-Ukraine war—the plot and cases are already mapped out, and mechanically it picks up right where the most recent game, *Sherlock Holmes: Chapter One*, left off.

It certainly doesn't feel modest in the slice I've played, though. *The Awakened* doesn't have the open-world scale of *Chapter One*, but it's far from just a prettied up version of the original. The beats of the plot are the same, but that's pretty much it—it looks and feels modern, and the characters, mysteries and situations have all been rethought and, in many cases, completely changed.

That plot, by the way, is a crossover between Sherlock Holmes and the mythos of HP Lovecraft—the public domain property equivalent of a peanut

**PLAYED IT**

butter and jam sandwich. Holmes, the investigator who never lets up and always finds the answers, ploughs headfirst into a world where the answers don't make sense and the curious are driven mad. Watch the indescribable sparks fly.

## HOLMES IMPROVEMENT

My hands-on time starts with Watson and Holmes arriving at a creepy asylum, where queasy close-ups give even the initial introductions at the front desk a camp horror atmosphere. The whole demo walks a line between scary and funny that serves as welcome flavour for the more serious business of investigation.

Further into the asylum, I cross-examine a patient who believes her evil doll talks to her. At first, I'm uncomfortable—there's repeated stereotyping of mental health issues here in a way that feels sorely outdated, even in the horror genre. But then the camera zooms in jerkily to the doll's face, and suddenly Sherlock is interrogating the toy itself as it responds in rasping screeches. Trying to catch the little terror in a lie by presenting the right evidence is so

wonderfully bizarre it's hard not to be won over—particularly in the ambiguity of what is genuinely supernatural, and what is merely Sherlock playing along.

Between such odd interactions, the meat of the game is, as you'd expect, investigation. For the most part this demo sees me creeping around the asylum's lower levels in search of clues. As you gather information by exploring the scene, notes are added to your casebook, with icons next to them indicating how they might be developed further.

I didn't get to dive too much into the larger conspiracy during the demo, but what I did uncover has me eager to dig deeper. In this slice at least, the game feels far from a compromised or budget project—it's a natural progression from *Chapter One* with plenty of intriguingly weird hooks. It has to be a surreal feeling to be building occult mysteries while real, human horror happens in the city around you, but it doesn't seem like Frogwares' circumstances are going to stop it releasing another ambitious and clever detective game.

*Robin Valentine*

## CHARACTERS, MYSTERIES AND SITUATIONS HAVE ALL BEEN RETHOUGHT

Evil dolls are a little played out, but you have to admit this is a really creepy looking one.





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# CROWN DUEL

How **THE DUVIRI PARADOX** will  
unite old and new *Warframe* players

*By Samantha Greer*



## The Duviri Paradox

T

he problem with most big on-going service games is that they eventually reach a critical mass where the up-front investment is too big for new players. *Destiny 2* suffers with this, deleting old expansions and content such that there's no way for a new player to coherently follow the story without watching lore videos on YouTube. *Warframe* might just have a solution, by turning the past into the future with its upcoming update, which is functionally a stand alone expansion.

*Warframe* fans have been looking forward to *The Duviri Paradox* for a long time. First announced in 2019, four years ago, the excitement has only grown as each story update between then and now has added complication after complication to our understanding of what *Duviri* is. If you're someone who has never played *Warframe* or found it too intimidating to start, then *Duviri* is for you too. Creating an opening for new players has been at the forefront

of creative director Rebecca Ford's mind as development on the update evolved. What can players expect? "You can imagine hearing about *Warframe*, doing a fresh install and then the Lotus will ask you, 'Do you wish to play with blade and gun or do you wish to experience the paradox?' Of course she'll tell you all paths will connect but the 'Void needs you now, where will you start?'"

## START AT THE END

So narratively, how does that work? The luxury of a game like *Warframe*, with so many tools in its narrative box, is that you can play around with continuity. Due to the titular paradox, this quest can act as both a

continuation of the story existing players already know, and also as the start for new players. "Of course you can start at the beginning or end of a paradox." It follows the Drifter, the

## IT'S YOUR GOAL AS THE DRIFTER TO FIGHT BACK AGAINST THRAX

mysterious character introduced in *Warframe*'s huge, late-game story quest The New War. New players can choose to come at *Warframe*'s overarching story from a different direction, one that lets them enjoy what's new rather than having to work through years of existing quests to get up to speed. "It's kind of like our *Fortnite* no-build mode," Ford explains. "It's like, you know *Fortnite* but you don't want to build houses? Sure! It's like, you know *Warframe*



BELOW: The Lotus will be there in spirit to lend a literal helping hand.



but you don't want to have to invest 80 hours to get to the latest update. We're gonna rip it all out and say, with truth to the theme of the story, you can start at the Paradox."

A good thing too, because *The Duviri Paradox* promises to be the game's most ambitious update so far, by quite a margin.

In *Duviri*, the Drifter is a wanderer who has been trapped in a dimension ruled over by King Dominus Thrax, a tyrannical overlord whose very emotions alter the reality of his realm. Trapped in a day that never ends, it's your goal as the Drifter to fight back against Thrax and his forces. The demo I was shown took place post-quest, giving us a look at what players will be coming back for after the update's main story is wrapped up. Thrax's realm is a vast open world where the color has been sapped out, waiting for the player to restore it. Rather than rolling hills or plains, *Duviri* is a landscape of fractured islands, with huge statues and massive flying worms for wildlife. Eagle-eyed





players will even notice pieces of the Zariman woven through the world, as bits of our universe bleed into *Duviri*'s. It's only fitting it be a little strange. Thankfully to get around you'll have a trusty mount called Kaithe, a skeletal horse that can fly like a demonic Pegasus. And don't worry, the horse is customizable.

### WARFRAMING DEVICE

Each attempt to thwart Thrax, called a 'day', is a roguelike run, reminiscent

of *Hades* or *Slay The Spire*. You'll begin with a modest selection of randomly provided weapons to choose and, across your run, earn upgrades to tackle tougher and tougher obstacles. Everything is melee focused here, and *Duviri* uses the Drifter's lack of power to give *Warframe* a slower pace, more reminiscent of a *Dark Souls* than the usual frantic ninja acrobatics. The Drifter is much more vulnerable than your average warframe and players

**ABOVE:** The impressive scope of *Duviri*'s world isn't just about size but how strange it is.

will need to scour the land for perks, called 'decrees', to bolster their build. To make things more dangerous you'll have to deal with the shifting moods of Thrax, which give different buffs to enemies each day.

Players can chase more traditional help in a set of dungeons known as the Undercroft, a pocket realm where warframes can remain hidden from Thrax who despises them (why, we've yet to learn). Here you can get access to the bio-mechanical suits the game is named after, provided regardless of which ones an existing player may already possess. This means new players can try out warframes and get a feel for the base game without the long investment.

A run in *Duviri*, therefore, isn't the long-term fine-tuning of vanilla *Warframe*, but more the wild abandon of something like *Risk of Rain 2*. "Have as much fun as you can, break the game if you want to." Compared with the incremental improvements you're used to chasing for your warframe, the upgrades of *Duviri* are far more powerful. In the

## DUVIRI Á LA MODE

*Three distinct ways to play Duviri*



### THE CIRCUIT

For a traditional *Warframe* experience, you can team up with some friends to tackle the dungeons.



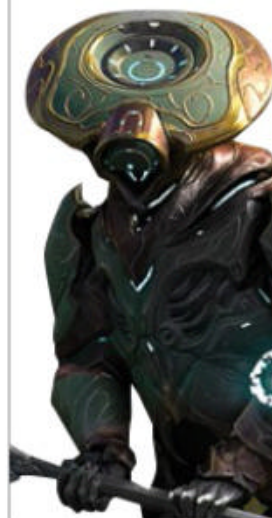
### THE DUVIRI EXPERIENCE

This is the full package, a vast open world, matchmaking with other random players.



### THE LONE STORY

This is for those who just want to get their daily reward and do runs away from everyone else.





## COVER FEATURE

### *The Duviri Paradox*





demo I see a decree which grants an ever-stacking damage boost as long as the player can keep moving. It's not hard to see how you could combine perks like these to create an overpowered build. Which is fine, because on the next run you start from scratch. Well, not entirely. While *Duviri* has no town like the game's other spaces, it does have Teshin's cave, the only refuge for the Drifter. It's here you begin each day and can build up some permanent progress, like unlocking weapon slots so you'll have more to choose from when you journey out again.

### END AT THE START

Longtime players need not worry, there will still be rewards they can take into regular *Warframe*. Each of the unique melee weapons that the Drifter wields can be unlocked for your warframes too. Though I expect many players, old or new, will be spending a lot of time here. The scope of it is massive and not just in the environments but in the battles too. Towards the end of the demo the Drifter had to battle one of *Duviri*'s giant flying worms. To do so will require players to call upon allies they can unlock and even, if they're powerful enough, take control of the worm for a short spell. If each run ends with an encounter of this scale, I think the thrill of it will be worth chasing.

These runs aren't just about chasing rewards anyway, as each 'day' in *Duviri* is also defined by a procedurally generated story, where you'll be tasked with aiding one of Thrax's citizens. "With *The Duviri Paradox* we're actually pretty inspired by *The Princess Bride*, we're inspired



**ABOVE:** Teshin's cave will be your home before each run through *Duviri* and a place to unlock permanent upgrades.

## "WE'RE ACTUALLY PRETTY INSPIRED BY THE PRINCESS BRIDE"

by all these weird meta-narratives, so a player will hear a familiar voice that gives them the story of, you know, 'the prince of fire', and then you're going to meet this character who has this problem and we're gonna push you in a direction that weaves

together different real-time goals but also a meta-narrative, with perhaps a storybook theme of sorts." A small departure from *Warframe*'s outlandish sci-fi tales and space opera, then.

### KRULL AND VOID

Far as this update might take us from the familiar, *The Duviri Paradox* is the Drifter's tale, a character who is distinctly human in a strange, post-human world. "The Drifter's experience is very important for us to tell, what they held back and what they were denied, and all of *Duviri*

will answer those questions," Ford says. "As things started coming together thematically, knowing this was a story about a person, a character, the Drifter, who is so distinctly human despite the Void and The Man in the Wall and the sci-fi around them. All they really wanted is happiness. That felt like a story I could tell, very honestly."

*Warframe* has been doing its thing for ten years now. Its last expansion, *The New War*, felt like the culmination of a decade of storytelling. *The Duviri Paradox* feels like a departure, a bold step into a whole new realm. A rich roguelike standalone expansion with a strange science fiction story to tell, that might just pave the way forward for games like it to invite new audiences into these long lived games. Proof, if any were needed, that *Warframe* is still alive and kicking in 2023. If what I saw was any indication, that's gonna be kicking a lot of ass.

You can find out for yourself when it releases this April. ■

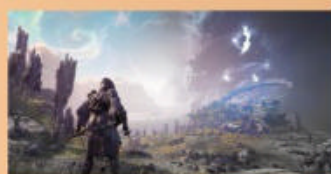


## EMOTIONAL ROLLERCOASTER *The five moods of King Thrax*



### ANGER

A harsher, more hostile landscape where enemies are bolstered with fire.



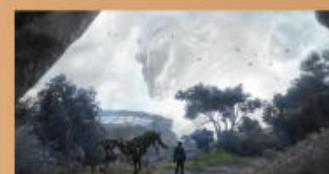
### HAPPINESS

Bright and more colorful than usual, this will apparently have more indirect effects on *Duviri*.



### ENVY

Dipping the sky in a moody green and giving enemies poison to dish out.



### SADNESS

A more melancholy *Duviri*, no small feat in a realm with an absence of color.



### CALM

The mood that will set a baseline for *Duviri* while players do its main quest.





# WAY OF THE SPACE NINJA

Looking back on **TEN YEARS OF WARFRAME** with Digital Extremes

By Samantha Greer

# W

arframe is big. Both in its success and in its scale, a vast action game that is as much about space combat, apartment decorating, pet training, fishing, hover surfing, mech fighting and open world exploration, as it is the central ninja combat that defined its debut. It's now ten years old, a feat few of its service game and MMO peers can boast. Like its Tenno, *Warframe* is an underdog that prevailed against the odds.

Digital Extremes itself is almost 30 years old and spent the 2000s doing work-for-hire, creating licensed games for a variety of clients. The Darkness, Star Trek, Dungeons & Dragons... the studio survived by taking whatever work it could. But there was always one dream project, a little sci-fi game the team hoped to one day get off the ground. I asked where the idea came from. "Like every game dev in [2004] they played *Resident Evil 4* and they wanted to make their own version of it," says

Steve Sinclair, former creative director on *Warframe*, before he and fellow director Geoff Crookes both burst into laughter. Every answer they give is with a smile and you get the sense they're two guys who never take themselves too seriously. But there is some truth to their joke. "Everyone rediscovered third-person," Sinclair explains, pointing to *Resident Evil 4*'s success and games like *Gears of War*, following the era of first-person dominance, making their

## DESPITE THE EFFORT, PUBLISHERS WEREN'T INTERESTED

project seem more viable. "[*Warframe*] has its roots in what we call the sci-fi version of *Dark Sector*."

It was this version they pitched to numerous publishers in what is now dubbed the 'rejection tour'. "I was on the road pitching for a year, all over the world with a little cube PC that would always get scrubbed by the bomb squads." Despite the effort, publishers weren't interested. "Sci-fi was dead," they were told. "So like a really confident artist... I

completely compromised our vision for it [laughs]."

### GLAIVE NEWS

*Dark Sector* was transformed into a modern-set story. Biomechanical suits became a mysterious 'technocyte' virus, and the player character's space ninja became a CIA agent. "I remember Steve had to sit me down," Crookes recounts. "You were so sincere, like, 'Geoff I think we need to make a game with a helicopter.'" *Dark Sector* released in 2008 to decent reviews.

It's clear though that the time following this was difficult for the company, as a seismic shift swept the industry around 2010. "The bottom fell out of all the [mid-sized] developers," CEO Sheldon Carter says of the time, as publishers shifted focus to huge, triple-A projects. "I'm sure everyone you've talked to has told you the same story with this, that we were really in trouble and this was our last shot."

Everyone did tell the same story. They'd had to lay off about a third of their staff. There was time and budget for one last project. If it failed, Digital Extremes was done. They decided that, if this was it, they were going to try make the one game they had always wanted to. So, in 2012, production on *Warframe* began.

**ABOVE:** New warframes only get stranger and more interesting.

**BOTTOM LEFT:** The Yareli design came from community artist Matias Tapia and their 'Magical Girl' warframe series.



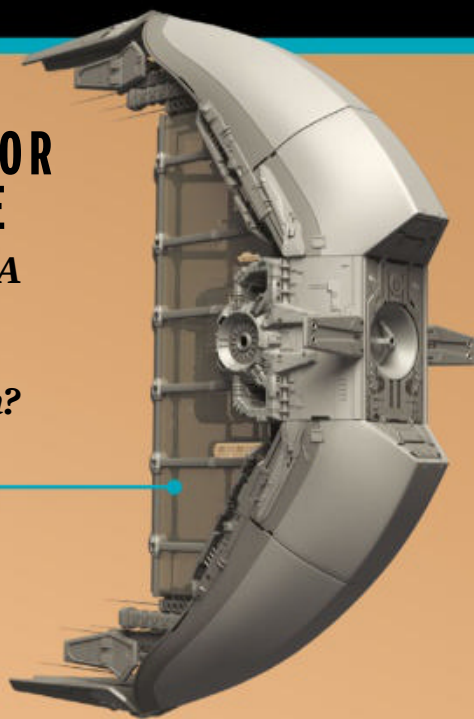




## THE 2005 DARK SECTOR PROTOTYPE

*How much DNA survived from Warframe's earliest version?*

**1** An early version of a ship that would become legendary in *Warframe* lore as the Zariman Ten Zero, a vessel that only recently appeared in the game.



**2** The hero's suit easily resembles the Excalibur warframe, which is used throughout promotional materials.



**3** Grineer troopers had a more generic design back in 2005, but the foundation for them is clearly there in older models.



**4** Even all those years ago the warframe method of extraction, strapping in to the exterior of their shuttle, was in place.

**I**t couldn't have been a bigger gamble. And they wanted to make it free-to-play. This was ten years ago, long before other big titles had planted their flag there. "I remember when we launched as a PS4 title, that Sony had these internal conferences," Sinclair recalls. "There was a round table on free-to-play and there were two people in the audience. Seven hundred chairs, empty. There's five devs... *Orcs Must Die*, me... some other hopeful people and just two people in the audience. Nobody was into it."

Not only was free-to-play a difficult pitch to gamers at a time when the term was synonymous with mobile phone shovelware, it was a hard sell to Digital Extremes' own team. Sinclair tells me that even their own staff were "leery" of what free-to-play meant. Still unable to secure a publisher, it was decided that Digital Extremes would publish *Warframe* itself. A decision that, quite literally, paid off, according to Sinclair: "Whatever money we made went back into the game and back into the studio. Instead of that cycle you're in

with a publisher where you get all these advances and you hope the game makes the money back but you don't know for six months if that's the case. You go through these boom and bust cycles."

### CORPUS POCUS

Sinclair fondly remembers when they had their first day of profit. "I'm going to slaughter the exact figure but I believe it was one thousand, five hundred and forty-eight bucks. I ran into the programmers' stand-up meeting and I said, 'We made money!'... they all turned and looked at me, in disbelief." *Warframe*, released as a closed then open beta, came with benefits. "Us making it real and putting it out there, [got us] immediate feedback from players," Crookes explains, where previously the only feedback they were getting was from publishers, whose main interest was trying to get the studio to do more for less. "Immediate feedback from players, positive feedback but also ideas on what they would like... we just had this boom of investment from the development team, to get in there and build this game around the player-base."

## WARFRAME TIMELINE

1993

Digital Extremes is founded by James Schmalz.

2000

*Dark Sector* is first announced.





ABOVE: Heart of Deimos really mechs my day.

It wasn't all smooth sailing. Sinclair recounts an especially disastrous moment for the game... on Christmas day. "People were losing XP. End of a mission, they weren't getting the right experience points... we're into the afternoon. Instead of having eggnog, I'm trying to figure this out. So I say, I'm going to build myself a test environment. I'll clear all the accounts, start myself a new account and I'll see what my experience points [are], log the data. Well, I was still connected to the production server when I cleared all the accounts. So Christmas day... I erased everyone's *Warframe* accounts." Sinclair and Crookes can find the humor in moments like that. "I called Glen, who's our tech director, and I said,

'Glen, I just deleted the entire database,' and he just started laughing. You know, you can't be mad, right? You just have to laugh." Thankfully their backups worked averting the crisis.

Nurturing a community is tricky, especially in unproven waters. Though it never stops being a challenge according to former community director Rebecca Ford. "Every emotion on the spectrum has made up some part of the community journey," she says. "I have just tried over all of these years to understand what people like about *Warframe* and do more of that. Then when we surprise them, let them know we're sometimes going to try different things. And the faster we fail, the easier we can move on."

## DOJO MOJO

Part of building a healthy community has no doubt been its free-to-play model. Almost everything in the game can be earned through play, without spending a penny.

Given that model and its success, I asked Carter what the key to making good free-to-play is. "It's still games like we've always made, at least for my career. You have to start first with the fun and the spirit of the game. What's your narrative hook? What's your gameplay hook? You can always keep monetization in mind but it has to be second." For Carter, their games have to be worth playing forever. "We want it to be something you're gonna be proud of, to talk to your friends about it. Come to Tennescon and chat with other people who are into it."

## TENNOCON *Meeting the fans*



**2016**  
Steve Sinclair at the very first Tennescon, three years after the game's launch. It was held in the home of Digital Extremes: London, Ontario, Canada.



**2017**  
Fans are treated each year to a whole variety of novelties like this impressive real-life recreation of the in-game *Warframe* foundry.



**2018**  
"Just being in the online space for so long, I think there is a *Warframe* bubble," Ford says of its much friendlier online player base.



**2019**  
The final Tennescon before the Covid pandemic struck, with a massive turnout. *Warframe* is a game with a huge, dedicated community.



**2020-2022**  
During the pandemic Digital Extremes held Tennescon within the game, with a live event and stream to promote *The Duviri Paradox*.



**2023**  
This year will be the first in-person Tennescon in three years. "It just pumps everyone up, gets us all ready to go," Carter says with glee.

**2005**  
A trailer for a prototype sci-fi *Dark Sector* is revealed.

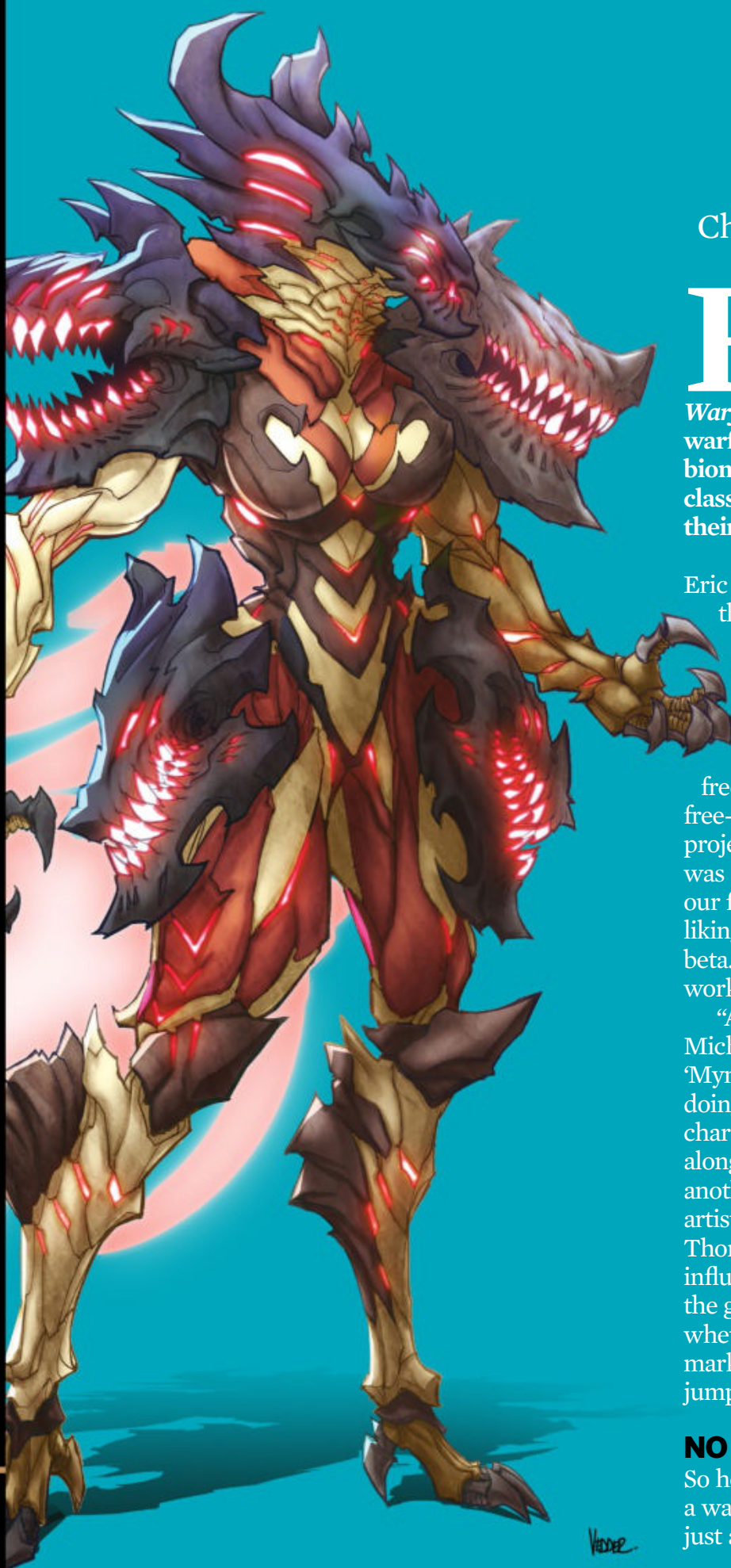
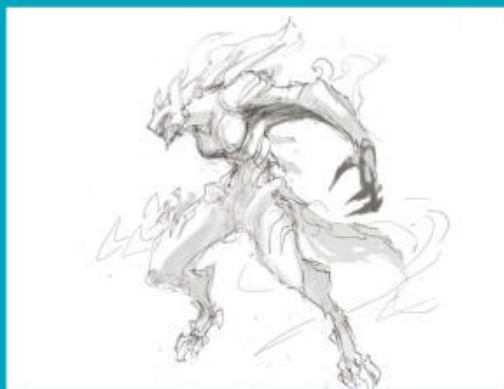
**2008**  
*Dark Sector* is released, with a changed, modern setting.

**2012**  
Production on *Warframe* begins.



**RIGHT:** Early exploratory stages are more playful and noticeably looser.

**BELOW:** Constraints have to be considered, such as player customization and attachments.



## RIGHT WARFRAME OF MIND

Chatting design with lead concept artist **ERIC VEDDER**

**R**ight away, back in 2013 when the game first came out, the thing that stood out to me about *Warframe* were the titular warframes themselves. Strange, biomechanical bodies that evoked classic ninja archetypes but also their own hybrid of shapes.

Eric Vedder is lead concept artist on the game. He started at Digital Extremes 12 years ago, working on games such as *Star Trek* and *The Darkness II*. “A small group broke off and started working on *Warframe*. This free-to-play and I was like, ‘What’s free-to-play?’ [laughs].” After other projects were wrapped up, *Warframe* was all that was left. “It worked in our favor because everyone ended up liking this game they were doing, this beta.” Vedder was first brought on to work on props for the game.

“At the time Michael Brennan, ‘Mynki’, was doing most of the character work along with another concept artist Keith Thompson. Very influential.” As

the game became bigger, though, whether it was character designs or marketing materials, artists would jump on whatever was needed.

### NO LONE WOLF

So how does the process of designing a warframe begin? “Sometimes it’s just a simple conversation, a banter

back and forth over a drink or a lunch break or something more official, that’s a paragraph or two.”

Not all warframe ideas come from the studio, however. “We get influenced by a lot of things, mostly by our community. We’re really close to our community.”

From there, nailing a design becomes about collaboration. “Each of the stages, they change,” Vedder explains, describing the concept stage where you have fun before it gets refined with the team into something tangible. “It’ll get sent over to a modeler then they might block it in and then it’ll come back to concept, then we’ll start sketching in over the loose block so we can spin it in 3D and go, ‘Oh, this idea worked as a 2D drawing but as I turn it around, this looks shitty’ [laughs].”

The artists keep trying to push what the game and its heroes can be. “*Warframe* is always trying to

do something a little different, a little weird.” Something that can be seen in its latest warframe, the 51st, Voruna, a werewolf-themed beast which is Vedder’s

## THE ARTISTS KEEP TRYING TO PUSH WHAT THE GAME AND ITS HEROES CAN BE

favourite design to date. “More so because I got to work with my art hero Joe Madureira.” A collaboration that took place at every stage. “I was really involved from the initial conversations to the initial sketches to the refined sketches to the production art, the color, the final art for it all, everything.”



## Ten years of Warframe

Over the years one of the most remarkable things about *Warframe*, as someone who has played it from the early days in 2013 to the present, is how a really compelling narrative slowly emerged from its shooting and looting. Talk to most fans and they will cite story moments in quests like *The War Within* as the highlights of the entire game. And every fan remembers *The Second Dream* twist, which reframes the whole game's narrative.

## LOST IN SPACE

In hindsight it looks carefully planned, but depending on who you ask a lot of it emerged over time. "My recollection and this is my recollection only..." Ford begins telling me, amused at what are sure to be discrepancies between people's accounts. "Is that Operators and stuff weren't a thing early on in *Warframe*." She recalls that the earliest concepts of the Operators didn't come about until about two years after the game's launch, laying the groundwork for the game's first big audacious twist in *The Second Dream*. "It wasn't like *Lost*, we weren't

making it up as we going along... I'm kidding, it was that," Sinclair jests. Though he says they certainly did have some ideas even early on for the game's themes like the duality of the Tenno as well as *The Second Dream* twist. Crookes agrees. "There was a foundation there that [Steve and I] would talk about. It's funny, some players would pick up on these little seeds we were planting." Yet *The Second Dream* was a contentious idea in the studio, Sinclair recalls that some in the studio found the twist "scandalous". "We were scared to do it," Crookes admits. "We were so excited to do it but we were nervous cause we're like, 'Is this gonna turn off a majority of the players? Is this even why they play this game?'"

To play *Warframe* now, you can arrive at a quest like *The Second Dream* sooner. An acknowledgment that it really became what a lot of players were invested in. "It even had this unexpected consequence or benefit of we saw a lot of players come back," Crookes says. "We saw a lot of accounts get reactivated when *The Second Dream* started getting the word out. That motivated us, excited us and got us to invest in that kind of worldbuilding."



Concept art for a Corpus spacecraft.

2013

*Warframe* enters closed beta.

2014

*Warframe* is released.

2015

*The Second Dream* comes out.





**ABOVE:** Angels of the Zariman was the first big update released under Rebecca Ford as creative director.



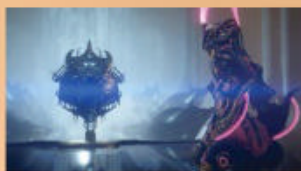
“**A**nd as [The Second Dream] was the first time, between Steve and Geoff and the leadership team, they realized that we needed to have good narrative,” Ford says, of how it redefined the game. “Like, action gameplay is great, but it’s not very emotional, and all of them, as long as I’ve known them, have cared so much about the art of storytelling. They realized very early on that we had an opportunity to tell a story.”

For an action-driven service game like *Warframe*, a balance does have to be struck, as Sinclair explains. “There’s always this argument as a game designer, the purity versus the story versus the world. *Warframe* has definitely been experimental for us in toying with those things, getting burned and then having some success

as well.” Despite those wins, nobody is more critical of their work than the developers. Sinclair feels like The New War had its issues. “Something like The New War, I possibly took it too far, where that was just so much work. So much animation. Ideally, I

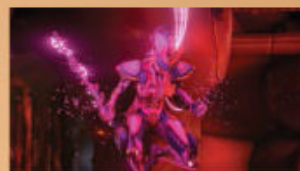
could be a bit lighter touch on the size of those scripts. It’s been a really interesting learning exercise. The quality of the writing, obviously we grew a writing staff, the quality of the VO, the acting, just watching those rise through the life of the project.”

## SPOILER SECTOR *Warframe's greatest twists*



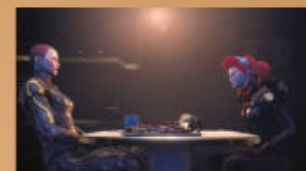
### THE SECOND DREAM

Undeniably the point where most players sit up and pay attention is when it’s revealed the warframes are simply remote-controlled bodies. The moment you meet your Operator is memorable.



### THE WAR WITHIN

The next big step on the journey was learning the full extent of your powers, culminating in the moment when the Operator projects their mind across the solar system to help rescue a mate.



### THE NEW WAR

This questline had many big reveals, but none as mindbending as finding out the mysterious Drifter is really your Operator... and then finding out they’re you from another timeline.

2016

The first Tennocon is held.

2016

The War Within releases, advancing the story.

2017

Plains of Eidolon, *Warframe's* first open world, is released.





Rebecca Ford, in many ways, has been closer to the story than most, having lent her own voice to the Lotus, the player character's mentor, who guides them throughout the entire game. Joining the company from a local MIT program as an intern, how did she end up in the role? "It's because we had no money," she admits frankly. "And I was like one of four

**ABOVE:** Many designs come through the community, whose artists are paid from sales of the item.

**RIGHT:** Concept art gets closer to the Grineer we know.



## VOID OF ANSWERS

*Warframe's enduring mystery – who is the Man in the Wall?*



You'd think this enigmatic, shape shifting entity from another dimension finally showing up in person with The New War would give us some answers, but they remain as elusive as ever. Based on their dialog in The War Within and the scenes from the past aboard the Zeriman Ten Zero we see, they seem to be responsible for gifting the powers of the Void (which make Tenno all that they are) to the Operator, but what exactly they wanted in return remains unknown. Yet it certainly seems like a deal with the devil.

women on the team at the time." She was willing to give it a try, but found there were certain things she couldn't do in place of a professional voice actor. "I remember we had to watch David Lynch's *Dune* and they were like, 'Can you do a British accent? Can you be like the empress at the beginning of *Dune*?' I was like, 'No? I can be a Canadian?'"

But for Ford, it's not a simple relationship she has with that character. "I was 21 when I recorded my first [lines] for Lotus. I was a young lady. Now I'm ten-plus years older... I love her, like Lotus is in *Smash*, right? She's a spirit in *Super Smash*. I feel like in many ways she's

everything I'm not. I love her as a character, I just wish I could do better for her."

The future of *Warframe's* story is a bright one but also one full of mystery. There are plenty of hints about what's coming and yet it feels like the game could go anywhere. How do you steer a project like that? "The one thing I have learned that's been the most precious for me to always look in on," Ford says. "Is working on a creative team of people that are experts in their field, [is] a comforting truth when you can tell a story together and for me, it's about what story we're telling next and I am very excited to get the Duviri chapter out into the world then see where it goes from there."

**2018**  
Fortuna and Orb Vallis open world are added.

**2019**  
Rising Tide brings ship combat to *Warframe*.

**2020**  
The Heart of Deimos and Cambion Drift are added.



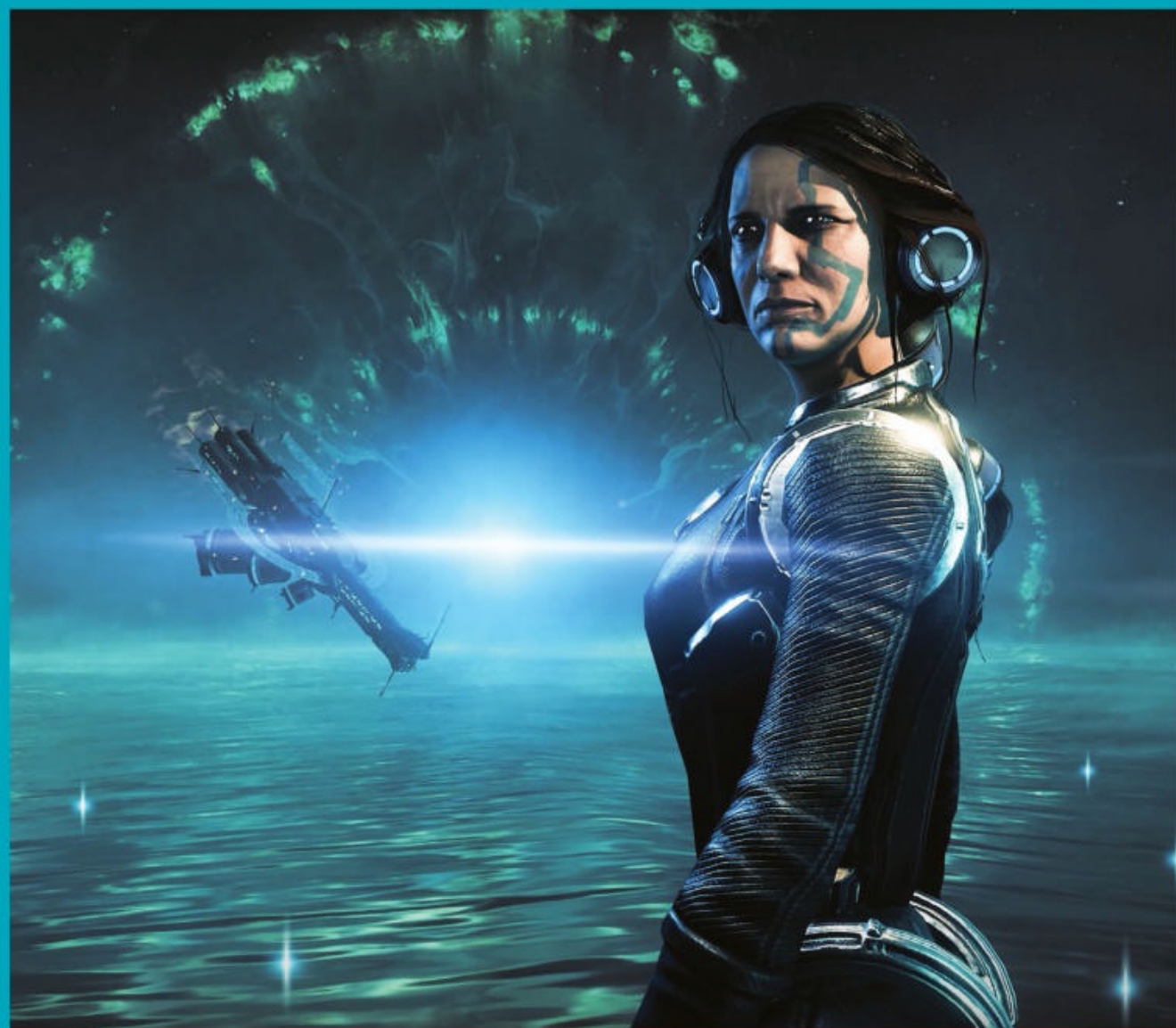


## NOT SO SILENT ASSASSIN

Creating the soundscape for Warframe with **KEITH POWER** and **GEORGE SPANOS**

**F**or many fans, *Warframe's* greatest moments are tied up in its music and its sounds. Each expansion solidifies what a sonically unique world they've created. Two people responsible for a forging that identity are composer Keith Power and audio director George Spanos. Though they each worked at Digital Extremes many years before *Warframe*, working together on *Dark Sector*, they both go way back. "To our earlier lives doing music and audio for advertising," Power says. Spanos reckons they started working together in 2000.

"It's more of a collaborative thing, even at the start, of 'What do you think Keith? What do you think this could be?'" Spanos explains. How did they find those initial, iconic sounds? "You had to be able to iterate quickly," Spanos says, describing the nature of service games when *Warframe* began. "Early on, listening to player feedback. Taking that in and thinking to ourselves, 'OK, how does that fit into the landscape we want to create?'" *Warframe* began with just two factions but they are still both a huge parts of the game's character, in no small part thanks to their sound design. "Grineer are these



**ABOVE:** It's a soundtrack worth appreciating through some decent headphones.

mechanical, old world, oily type of sounding guys where as Corpus are more high tech," Spanos puts it simply. "We recorded a lot of sounds in the studio, organic sounds, metal, clothing sounds, all that kind of stuff for the Grineer. And Corpus, a lot of it is made in the computer. Digital, processed sounds. That goes for the voices too."

### WAR DRUMS

For Power, when he started on *Warframe*, Spanos and the team had already implemented some basics for him to build upon. "There was a handful of pieces that were already in there. Some Taiko drumming, which was amazing. That's probably the thing people think of when they think of *Warframe*." Collaboration is essential but so too is change. "In the early days it was setting up a bunch of rules for ourselves then we've, quite literally, been breaking them with every quest."

Those musical moments in the quests were something I was keen to chat about, since they helped elevate iconic scenes of The Second Dream or The War Within. "When Power wrote This Is What You Are, we realized we had something special on our hands. It kind of became the anthem of the Tenno." The tune is a motif deployed with razor precision after it's introduced,

signaling the important steps in the Tenno's journey. "I basically just try to make George cry," Power says. "It's a good indication it's going to resonate

with players as well."

Perhaps the most iconic piece of music in and outside of the game is We All Lift Together, a workers song chanted by the laborers of Fortuna on Venus. "I've always wanted a hit song," Power says with a laugh. To Spanos, it was a way to tell their story in a way that was both efficient and had impact. "When players hear this, they can relate to it"

## COLLABORATION IS ESSENTIAL BUT SO TOO IS CHANGE





## Ten years of Warframe

So what lies ahead for *Warframe*? Exactly a year before the time we spoke, Ford was made creative director. Something that felt like a natural fit to nearly everyone but herself. “I didn’t ask, I didn’t apply, we were looking internally at a leadership level,” she explains. “I hadn’t even considered myself at all. Truly, truly, did not think I had it.”

Sinclair, Crookes and Carter thought Ford was the obvious choice and essential in keeping Digital Extremes healthy.

“If my old ass is stuck in whatever position, other people don’t get a chance to grow and try out things,” Sinclair says.

Starting as one of a tiny handful of women at the studio, Ford is now proud of how things have improved. “We’ve hired about 60-plus women, which is amazing for me to see.”

## A NEW QUEST

Taking over a “ten year old pseudo-MMO that was basically

crowdfunded from the ground up” and taking it into a bold new future is something both exciting and terrifying for Ford. “I want to do a good job but I don’t know if I know how. So I just need to trust myself, trust my team and trust the community. We’ll figure it out together. They’ll tell me if I’m wrong. I’m not surrounded by people who are like, ‘OK boss, let’s do that idea.’”

And while

*Warframe* is now in exciting new hands, its old creative heads are embarking on a new journey with the recently announced *Soulframe*. “I’m

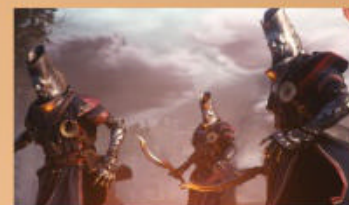
**“WITH SOULFRAME I WANT IT TO FEEL PUNK ROCK A BIT, YOU KNOW?”**

an old Star Trek guy, the mirror universe, the Terran Empire. So [*Soulframe*] isn’t the opposite of *Warframe* but some things are inverted,” Sinclair says. “*Warframe* is crazy fast, high agility, *Soulframe* is a bit slower, more casual. *Warframe* is about shooting, *Soulframe* is about melee more. But there’s a lot of shared DNA. With *Soulframe* I want it to feel punk rock a bit, you know? I wanna do something with only two people in the audience initially.”



## LOOK INTO YOUR SOULFRAME

*What to expect from the next game*



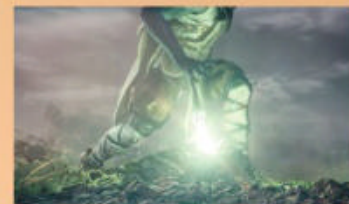
## DISTINCT VISUALS

Expect it to retain *Warframe*'s unique aesthetic sensibilities.



## SLOWER PACE

Based on developer comments, we're getting *Souls*-like combat.



## NATURE NURTURE

Your character will generate some kind of bond with the natural world.



## WEIRDNESS

No matter what it looks like now, expect *Soulframe* to go places you'll never see coming.



HANDGUN STANCE



SHOTGUN STANCE



SUBMACHINE GUN STANCE

Early concepts are not quite as biomechanical as *Warframe*'s designs.

2021

Call of the Tempestarii adds substantial railjack quest.

2021

After years of teasers, The New War released.

2022

Rebecca Ford announced as *Warframe*'s creative director.



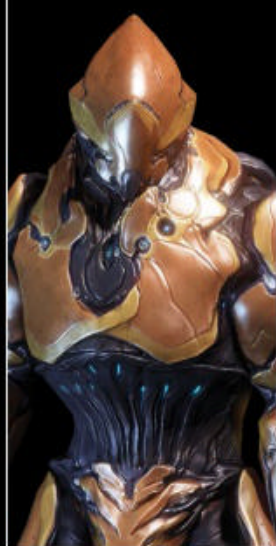


**I**t's a tall order, with *Warframe's* success shaping the industry in a big way. They struggled to convince their own team with *Warframe*, now they have people knocking on their door to experience working on a service game. "If [Sinclair] was doing that same presentation this year at an E3, there'd be more than two people in the crowd," Crookes states. "It's a much different development time to do this than it was when we did *Warframe*. I think *Warframe* shipped with eight warframes? And two small art sets? We're going to be required to ship more when we launch *Soulframe*."

### TENNO YEARS OLDER

For a game and a developer journey as storied as *Warframe*,

**ABOVE:** What is a space opera without melodramatic villains?



looking back now, what were the highlights for the team?

There are a couple for Carter, but a big one was the unveiling of Plains of Eidolon at Tennocon, *Warframe's* first open world. "In front of that crowd, hearing them erupt with their joy. I'm just a game developer, so now I get why Madonna is going back on world tour again to stand in front of people." The surprise is a key part, he tells me. "It was something they all wanted, that they had no idea they were going to get."

"I have this very strong memory from when *The Second Dream* came out," Sinclair begins, telling me about a moment he won't forget. "We were getting reactions and watching people play it and this one fan just broke down and bawled at the end. This was playing in our board room to our admin,

James who started the company, who is very aloof, not very emotionally available, and the tears were rolling silently down his cheeks as he's watching this player just losing their mind and gush with love about what an experience it had been."

Ford's is the moment she got offered the creative director role, a huge achievement for someone who started at the company as an intern and now gets to steer the ship. "I feel like never again in my lifetime will I get an opportunity to tell someone our next creative choice and see it all come together, so perfectly, that I just want to make the most of it. I'm not gonna stare too close at the fear part of me, that knows how difficult it is to make games." As always with Ford, it's onwards and upwards. "I think it's gonna be our best year yet." ■

2022

Angels of the Zariman released as first project under Ford.

2022

*Soulframe* announced as the next project for Geoff Crookes.

2023

*The Duviri Paradox* is due to be released in April.





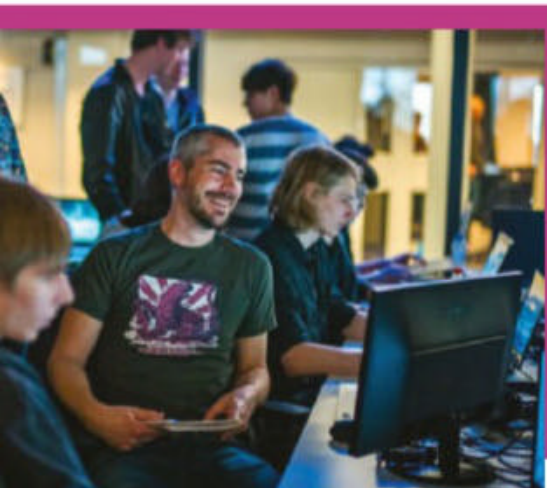
## THE BEST GAME DESIGN PROGRAMS RANKED BY THE PRINCETON REVIEW 2023

Whether it's the best teachers, the coolest graduates, or the most cutting-edge facilities, the Princeton Review has worked to find a great school for you.

It can be a challenge picking a university. Whether it's Balamb Garden, the College of Winterhold, or the Academy at Raya Lucaria, prospective students in videogames these days are spoiled for choice (just mind the ghosts and evil sorcerers). And while we, as lowly meat-based lifeforms, can't attend these prestigious institutions, we can certainly go to school to learn how to design and create them. If you're looking to pursue a career in game design, or are just curious about how it works, we've got you covered. Every year, the Princeton Review ranks the 50 best undergraduate and 25 best graduate programs for videogame design. Rated on a thorough set of criteria from graduate

employment percentage to facilities and faculty quality, these rankings are an excellent starting point for students to figure out the next step toward their dream career. We've also included some thought-provoking 'homework' projects to get your game design brain working, based on real challenges that designers face. We also take a look at how narrative design is used to weave the complex stories of today's games with their systems, and how user interface design is used to let players seamlessly interact with game worlds..

**Want to know more?** Check out The Princeton Review's website for further info: [www.princetonreview.com/game-design](http://www.princetonreview.com/game-design)





# THE TOP 50 BEST GAME DESIGN UNDERGRADUATE PROGRAMS



Whether you're taking your first steps or refining your skills, there's a game design program for anyone. Check out the 50 best undergraduate and 25 best graduate programs out there.



## 1 NEW YORK UNIVERSITY

**2022 Grads Hired:** 72%  
**2022 Grads Mean Salary:** \$67,500  
**Faculty:** Eric Zimmerman (founder, GameLab), Mitu Khandaker (CEO, Glow Up Games)  
**Graduates:** Robert Meyer (God of War: Ragnarok), Noelle Mazurek (Diablo IV)



## 2 UNIVERSITY OF SOUTHERN CALIFORNIA

**2022 Grads Hired:** 90%  
**2022 Grads Mean Salary:** \$65,000  
**Faculty:** Ed Zobrist (Epic Games), Marianne Krawczyk (God of War)  
**Graduates:** Jenova Chen (Journey), Jeff Kaplan (former VP, Blizzard)



## 3 ROCHESTER INSTITUTE OF TECHNOLOGY

**2022 Grads Hired:** 85%  
**2022 Grads Mean Salary:** \$83,904  
**Faculty:** David Schwartz, Flip Phillips  
**Graduates:** Steven Van Slyke (co-inventor, OLED), Anna Sweet (CEO, Bad Robot Games)



## 4 CLARK UNIVERSITY

**2022 Grads Hired:** 65%  
**2022 Grads Mean Salary:** \$65,600  
**Faculty:** Jonathan Rudder (Lord of the Rings Online), Ezra Cove (Dungeons and Dragons Online)  
**Graduates:** Katelyn Anthony (QA lead, Riot), William Parker (Wizards of the Coast)

### 5. DIGIPEN INSTITUTE OF TECHNOLOGY

**2022 Grads Hired:** 57%  
**2022 Grads Mean Salary:** \$86,865  
**Faculty:** Ellen Guon Beeman (EA, Microsoft, founder: Women in Games International), Claude Comair (co-founder, Nintendo Software Technology)  
**Graduates:** Kim Swift (Xbox Game Studios), Adam Brennecke (Obsidian Entertainment)

### 6. UNIVERSITY OF CENTRAL FLORIDA

**2022 Grads Hired:** 79%  
**2022 Grads Mean Salary:** \$52,036  
**Faculty:** John Murray, Maria Harrington  
**Graduates:** Richard Ugarte (Epic Games), Alexia Mandeville (Niantic)

### 7. UNIVERSITY OF UTAH

**2022 Grads Hired:** 58%  
**2022 Grads Mean Salary:** \$78,923  
**Faculty:** Joe Barnes (Disney and Epic Games), Roger Altizer (Games Lab)  
**Graduates:** Doug Bowser (president, Nintendo of America), Nolan Bushnell (founder, Atari)

### 8. VANCOUVER FILM SCHOOL

**2022 Grads Hired:** 46%  
**2022 Grads Mean Salary:** \$65,000  
**Faculty:** Glen Hamilton (EA), Jeff Plamondon (Capcom Vancouver)  
**Graduates:** Boris Wong (Riot), Armando Troisi (NetEase Games)

### 9. MICHIGAN STATE UNIVERSITY

**2022 Grads Hired:** 78%  
**2022 Grads Mean Salary:** \$58,000  
**Faculty:** Jeremy Gibson Bond (Maxis, Disney), Ricardo Guimaraes (Blizzard)  
**Graduates:** Brian Murray (creative director, EA), Chris Bray (Bethesda)

### 10. DREXEL UNIVERSITY

**2022 Grads Hired:** 60%  
**2022 Grads Mean Salary:** \$44,500  
**Faculty:** Tony Rowe (LucasArts), Paul Diefenbach (OpenWorlds)  
**Graduates:** Glen Winters (Red Dead Redemption 2), Greg Lebanov (Wandersong, Chicory)

### 11. BRED A UNIVERSITY OF APPLIED SCIENCES

**2022 Grads Hired:** 81%  
**2022 Grads Mean Salary:** \$43,500  
**Faculty:** David Wessman (Saints Row, X-Wing series), Mata Haggis (Resident Evil, Dying Light)  
**Graduates:** Jim Hendriks (Ubisoft), Nathalie Jankie (Remedy Entertainment)

### 12. BRADLEY UNIVERSITY

**2022 Grads Hired:** 73%  
**2022 Grads Mean Salary:** \$45,347  
**Faculty:** Aaron Villarreal (Arkane, Blizzard), Ryan McCabe (Insomniac)  
**Graduates:** Renae Radford (cinematics lead, Blizzard), Austin Holt (Amazon Games)

### 13. CHAMPLAIN COLLEGE

**2022 Grads Hired:** 67%  
**2022 Grads Mean Salary:** \$47,000  
**Faculty:** Jessie Hough (Riot), Nathan Walpole (Halo 2-4, Elder Scrolls Online)  
**Graduates:** Alex Martens (Rockstar), Lucas Annunziata (Overwatch 2)

### 14. WORCESTER POLYTECHNIC INSTITUTE

**2022 Grads Hired:** 70%  
**2022 Grads Mean Salary:** \$82,000  
**Faculty:** Brian Moriarty (Infocom Games, founding member of GDC), Keith Zizza (Bioshock Infinite)  
**Graduates:** Michael Gesner (Riot), Jon Radoff (Beamable)



## TOP 50 GAME DESIGN UNDERGRADUATE PROGRAMS (CONT)

### 15. SHAWNEE STATE UNIVERSITY

**2022 Grads Hired:** 31%

**2022 Grads Mean Salary:** \$64,875

**Faculty:** Bastien Lecouffe-Deharme, Greg Lyons

**Graduates:** Dan Clark (creative director, Epic Games), Derek Lewis (Insomniac)

### 16. SAVANNAH COLLEGE OF ART AND DESIGN

**2022 Grads Hired:** 41%

**2022 Grads Mean Salary:** \$55,504

**Faculty:** Jack Marnais (Far Cry, Crysis), Cyril Guichard

**Graduates:** Harrison Pink (Diablo IV), Matt Ward (Gearbox)

### 17. FULL SAIL UNIVERSITY

**2022 Grads Hired:** 63%

**2022 Grads Mean Salary:** \$59,000

**Faculty:** Patrick Kelly (Namco, LucasArts), Miguel Molinari (Arkadium)

**Graduates:** Jason Citron (creator & CEO, Discord), Kerry Allen (id Software)

### 18. QUINNIPIAC UNIVERSITY

**2022 Grads Hired:** 40%

**2022 Grads Mean Salary:** \$65,000

**Faculty:** Jonah Warren, Elena Bertozzi

**Graduates:** Donovan Sepulveda (Riot), Shawn Urban (F84)

### 19. THE UNIVERSITY OF TEXAS AT DALLAS

**2022 Grads Mean Salary:** \$47,000

**Faculty:** Nelson Lim (Lucasfilm), Bryon Caldwell (Industrial Light & Magic)

**Graduates:** Matt Charles (Gearbox)

### 20. UNIVERSITY OF SILICON VALLEY

**2022 Grads Hired:** 16%

**2022 Grads Mean Salary:** \$62,000

**Faculty:** Evan Skolnick (Cuphead, Dying Light, Star Wars: Battlefront), Ricardo Kayanan (Cars, Ratatouille, Transformers 2)

**Graduates:** I-Wei Huang (Skylanders), Rosie Wrede (Call of Duty: Vanguard)

### 21. LA SALLE COLLEGE VANCOUVER

**2022 Grads Hired:** 100%

**Faculty:** Peter Chan (Relic)

**Graduates:** David Larmour (Dawn of War 3), Greg Findlay (Rise of the Tomb Raider, Thief) and features a content creator program.

### 22. LAGUNA COLLEGE OF ART + DESIGN

**2022 Grads Hired:** 91%

**2022 Grads Mean Salary:** \$50,000

**Faculty:** Javier Perez (PlayStation Studios), Donald Ott (Amazon Games)

**Graduates:** Sarah Jaques (art director, Nickelodeon Animation), Bobby Hernandez (Insomniac Games)

### 23. ABERTAY UNIVERSITY

**2022 Grads Hired:** 40%

**2022 Grads Mean Salary:** \$45,000

**Faculty:** Joseph deLappe, Ruth Falconer

**Graduates:** David Jones (creator of Lemmings, Grand Theft Auto), Timea Tabori (Rockstar)

### 24. FALMOUTH UNIVERSITY

**2022 Grads Hired:** 57%

**2022 Grads Mean Salary:** \$47,505

**Faculty:** Tanya Krzywinska, Minhua Eunice Ma

**Graduates:** Sophie Shepherd (Respawn), James Collins (Firesprite Games)

### 25. RENSSELAER POLYTECHNIC INSTITUTE

**2022 Grads Hired:** 15%

**2022 Grads Mean Salary:** \$73,200

**Faculty:** Maurice Suckling (Civ 6, Fortnite)

**Graduates:** Curtis Priem (co-founder, NVIDIA), Karthik Bala (CEO, Velan Studios)

### 26. NEW ENGLAND INSTITUTE OF TECHNOLOGY

**2022 Grads Hired:** 57%

**2022 Grads Mean Salary:** \$50,000

**Faculty:** William C. Culbertson (Hasbro), Jim McClure (38 Studios)

**Graduates:** Daniel Laba (Diablo 2: Resurrected), Daniel Cuccia (Mathworks)

### 27. MIAMI UNIVERSITY

**2022 Grads Hired:** 14%

**2022 Grads Mean Salary:** \$58,200

**Faculty:** Matt Board (Owlchemy Labs), Geoffrey Long (Microsoft Studios)

**Graduates:** Lauren McKenzie (The Elder Scrolls), Elie Helbing (Naughty Dog)

### 28. ABILENE CHRISTIAN UNIVERSITY

**2022 Grads Hired:** 75%

**2022 Grads Mean Salary:** \$68,000

**Faculty:** Brian G. Burton, Rich Tanner  
**Graduates:** Morgan Davis (Gearbox), Michelle Brothers (Sony Bend)

### 29. HOWEST UNIVERSITY OF APPLIED SCIENCES

**2022 Grads Hired:** 80%

**Faculty:** Tristan Clarysse (Larian, Bioware), Alexander Delagrangue (Guerilla Games)

**Graduates:** Sofie Debloudts (Netspeak Games), Jeroen Maton (Bungie)

### 30. UNIVERSITY OF WISCONSIN-STOUT

**2022 Grads Hired:** 20%

**2022 Grads Mean Salary:** \$42,100

**Faculty:** Dave Beck

**Graduates:** Chris Grun (DreamWorks), Mae Techmeier (Monolith)

### 31. OKLAHOMA CHRISTIAN UNIVERSITY

**2022 Grads Hired:** 37%

**2022 Grads Mean Salary:** \$36,000

**Faculty:** Kelly Romeo (Borderlands)

**Graduates:** Alex Waldo (Rise of the Tomb Raider), Travis McIntosh (Uncharted)

### 32. NORTHEASTERN UNIVERSITY

**Faculty:** Casper Harteveld (Serious Games)

**Graduates:** Aslanta Chen (PlayStation), Andrew Knollmeyer (Rockstar)

### 33. DEPAUL UNIVERSITY

**Faculty:** Ed Keenan (Midway Games), Brian Schrank (EA, Cartoon Network)

**Graduates:** Mark Nauta (lead designer, XCOM), Jay Pecho (EA)

### 34. MARIST COLLEGE

**Faculty:** Karen Schrier (WHO, Nickelodeon)

**Graduates:** Daren Sugg (creative director, Fortnite), Ian Clayman (Exploding Kittens)

### 35. BLOOMFIELD COLLEGE

**2022 Grads Hired:** 11%

**Faculty:** Blake Andrews, Dennis Carr  
**Graduates:** Josiah Hunt (Santa Monica Studio), Olivia Zuern (Akupara Games)

### 36. ACADEMY OF ART UNIVERSITY

**Faculty:** Jason Weesner (Sly Cooper, Tomb Raider), Mark Girouard (Sega, Activision)

**Graduates:** Thomas Catalano (Striking Distance Studios), Aimi Watanabe (Intrepid Studios)

### 37. NEW YORK FILM ACADEMY

**2022 Grads Hired:** 50%

**Faculty:** John Zuur-Platten (F.E.A.R. 2, Johnny Mnemonic), Brandii Grace (The Matrix Online)

**Graduates:** Guillermo Quesada (Amazon Studios), Junliang Zhang (Activision / Blizzard)

### 38. UNIVERSITY OF MICHIGAN-DEARBORN

**2022 Grads Hired:** 35%

**2022 Grads Mean Salary:** \$80,000

**Faculty:** Bruce Maxim, Foyzol Hassan

**Graduates:** Austin Krauss (Evernever Games), Shane Costello (Godfall)

### 39. ARTCENTER COLLEGE OF DESIGN

**2022 Grads Hired:** 75%

**Faculty:** Zachary Adams (Spider-Man, Ratchet & Clank), Sean Kearney (Maxis Studios - EA)

**Graduates:** Michael Bay, Zack Snyder

### 40. DAKOTA STATE UNIVERSITY

**Faculty:** Peter Britton, Erik Pederson

**Graduates:** Matt Engesser (Rockstar), David Sotir (Seismic)

### 41. STETSON UNIVERSITY

**2022 Grads Hired:** 75%

**Faculty:** Dengke Chen, Matt Roberts

**Graduates:** Daryl Holt (VP, EA Sports), Ben Burbank (Valve)

### 42. CLEVELAND INSTITUTE OF ART

**Faculty:** Jared Bendis, Harrison Walsh

**Graduates:** Tim Elek (Epic Games), Ocean Young (RazorEdge)

### 43. FERRIS STATE UNIVERSITY

**2022 Grads Hired:** 30%

**2022 Grads Mean Salary:** \$60,000

**Faculty:** Graham Smallwood, Brian Olmstead

**Graduates:** Lydia Zanotti (Valve), Jessica Plowman (Epic Games)



#### 44. KENT STATE UNIVERSITY

**2022 Grads Hired:** 9%

**2022 Grads Mean Salary:**

\$60,000

**Faculty:** Christopher Totten, Tim Fritz

**Graduates:** Joseph Gage (EA), Nina Marotta (High Moon Studios)

#### 45. CORNELL UNIVERSITY

**2022 Grads Hired:** 15%

**Faculty:** Donald Greenberg, Jon Kleinberg

**Graduates:** Daniel Sturman (CTO, Roblox), Rick Arons (executive VP, Pokemon)

#### 46. UNIVERSITY OF THE INCARNATE WORD

**Faculty:** Adam Watkins, Troy Mishler

**Graduates:** Matt Tovar (Infinity Ward), Anna Faryniarz (Rooster Teeth)

#### 47. HIGH POINT UNIVERSITY

**2022 Grads Hired:** 10%

**2022 Grads Mean Salary:**

\$50,000

**Faculty:** Stefan Hall, Kristina Bell

**Graduates:** Kira Fogleson (Epic Games), Emily Krol (Logitech)

#### 48. UNIVERSITY OF CALIFORNIA—IRVINE

**Faculty:** Justin Britch (Obsidian), Darryl Despie (Respawn)

**Graduates:** Tim Morten (Frost Giant), Hadidjah Chamberlin (Moon Shot)

#### 49. NEW JERSEY INSTITUTE OF TECHNOLOGY

**Faculty:** Craig Gotsman, Tara Alvarez

**Graduates:** Robert Gioia (Jump Ramp Games), Hrishikesh Sidhartha (Path of Exile)

#### 50. MASSACHUSETTS INSTITUTE OF TECHNOLOGY

**Faculty:** Eric Klopfer, TL Taylor

**Graduates:** Eran Egozy (CTO, Harmonix), Chris Weaver (founder, Bethesda)



## HOMEWORK: Directing players Effective guidance

From Assassin's Creed to Spider-Man to Horizon Zero Dawn, open world games give players huge playgrounds to get lost in. However, that presents a challenge for designers—how to prevent your players from getting tired of being lost. There's a moment in every one of these games where you open up on a scenic panorama or sprawling metropolis and have to pause for a moment and just take it all in, but if designers aren't careful, it can feel overwhelming. How do you design your game to allow for players to explore, but still have an indication of where the story will take them?

**EXAMPLE:** Elden Ring was PC Gamer's Game of the Year in 2022, and for good reason. It took the Soulsborne formula of bleak, labyrinthine dungeons and challenging bosses and blended it seamlessly into a massive open world experience. It eschewed the usual guidance you find in an open world game—there are very few map icons, no quest logs, and no chatty sidekicks to give you direction. Instead, it relied on a few carefully doled out lines of cryptic dialogue and some vague golden light to guide your way. It also made elaborate use of visual storytelling to clue players in to what was important. When you finish Stormveil Castle, you crawl out of the bowels of the dungeon to find yourself overlooking an incredible vista. Centered directly in the player's line of sight, framed on either side by massive cliffs and a foul swamp, rises the shape of Raya Lucaria. You know right away that this is important.

**HOMEWORK:** Imagine you are designing an open world game. How would you use the elements of user interface, narrative design, and visual storytelling to guide your players toward your content?



# USING NARRATIVE DESIGN TO TELL MEANINGFUL STORIES

The stories in videogames have come a long way from 'some big spiky turtle guy stole your girlfriend, go find her!' Nowadays, we see complex narratives that not only result in compelling gameplay experiences, but that get converted into HBO shows that can bring you to tears on a Sunday night. Videogames are not just playable movies, though—and treating them as such misses a big part of what makes them special. A narrative designer is a person who shepherds the game's story through the development process, blending it with systems, writing, and lore.

It might be helpful to talk a little bit about what we mean by story in the first place. After all, the story of a game can refer to many different things. It can be the tale of how Cloud Strife and his band of heroes save the world from Sephiroth (and his mommy issues), but it can also be the way you crafted a huge wolf pen in Valheim and became an animal trainer, or how your guild dropped Algalon the first time in World of Warcraft. Games are, at their core, about experiences, and a narrative designer helps their team blend the plot and writing with the mechanics and art to give players the best possible experience.

An example of this kind of blending comes from the OG boomer shooter itself, Doom. There are many ways for a

game to communicate to its players how much health they have left: Bars, numbers, orbs, gauges, red flashing screens, all manners of uncomfortable grunting. In Doom, there was a bar on the HUD at the bottom that displayed the percentage of health you had left, but it also had a portrait of your intrepid marine that got more bloody and battered as your health dropped. By doing this, the design team blended the story of the game with the mechanics in a way that made the game world feel more alive and lived in, and let you connect with the otherwise silent protagonist in a deeper way.

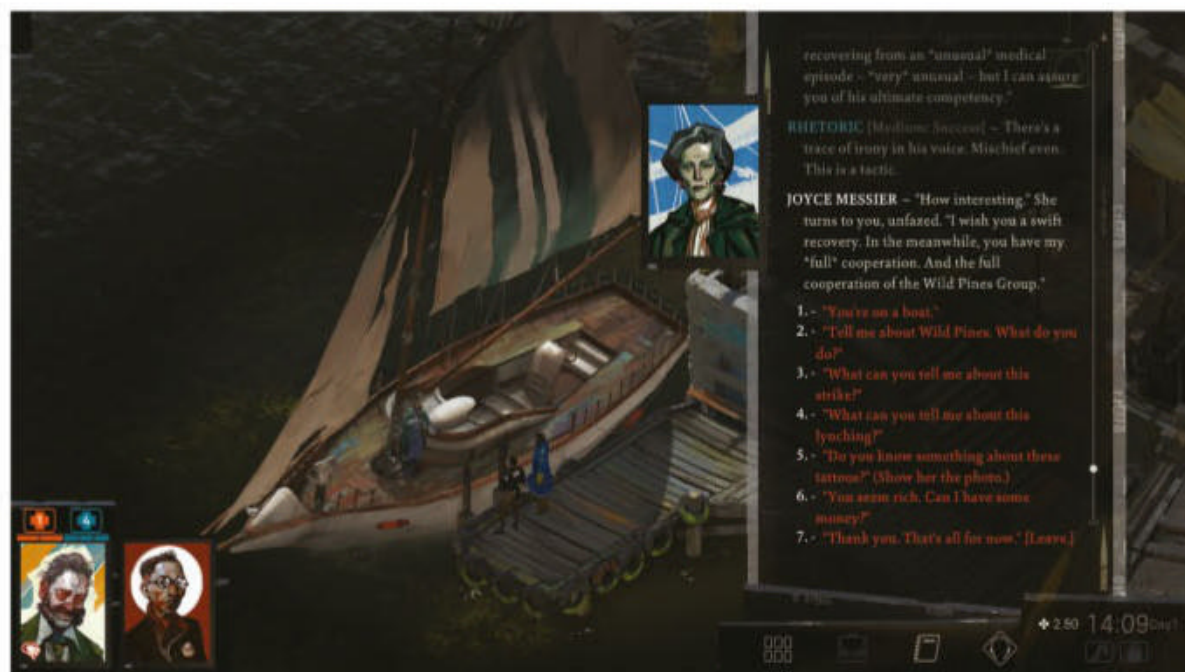
Sometimes gameplay elements can lead to breakthroughs in narrative, and vice versa. In the development of Deus

Ex, the design team had a system where the character installed cybernetic augmentations in various body slots, boosting their aim, speed, or strength. By pondering where these augments came from, the team took a mechanical element of the game and were inspired to write more backstory about these black market augs and their origins, even leading to the thought that some of them might have drawbacks coming from chop shop cyber docs.

Stories in games don't necessarily go in straight lines, either. Take Disco Elysium, for example. In this brilliant game about an amnesiac, alcoholic detective, you have a ton of freedom in how to go about solving the murder at the core of the game's story. The decisions you make, the people you talk to, and the order that you do those things matter a lot, and can fundamentally change the outcome of what happens to our dear Harry DuBois and the other characters. A narrative designer might be in charge of keeping track of all those branching paths, and working with the rest of the team to ensure they all make sense.

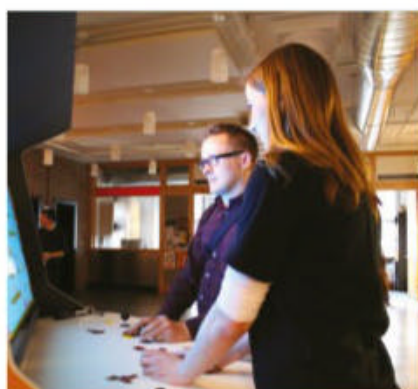
As the stories in games have become more complex, so too has the process of creating them. People who work in narrative design tend to wear many hats, taking an active hand in everything from script writing to systems design to directing voice talent. If you're interested in this element of design, be prepared to work closely with other members of your team, bringing the vision of a game's story to every element of the production.

Pay close attention to the next game you play and ask yourself what elements of the gameplay help tell the story, and vice versa. What's working, and what could be better? How would you improve it? What is it doing that's great, making you feel immersed and committed to what's going on, and where are the pain points pulling you out? By doing this, you'll start taking your first steps on a journey toward thinking like a narrative designer.



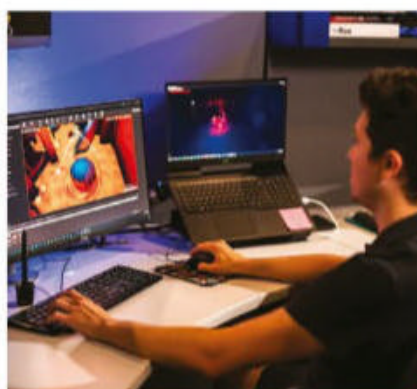


# THE TOP 25 BEST GAME DESIGN GRADUATE PROGRAMS



## 1 NEW YORK UNIVERSITY

**2022 Grads Hired:** 75%  
**2022 Grads Mean Salary:** \$84,000  
**Faculty:** Eric Zimmerman (founder, GameLab), Mitu Khandaker (CEO, Glow Up Games)  
**Graduates:** Robert Meyer (God of War: Ragnarok), Noelle Mazurek (Diablo IV)



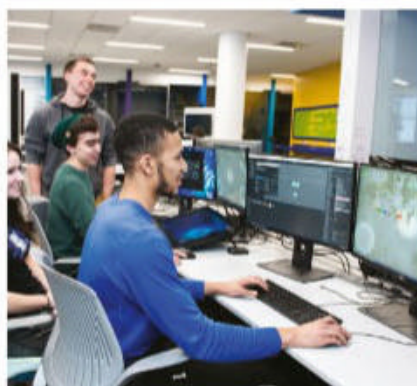
## 2 UNIVERSITY OF CENTRAL FLORIDA

**2022 Grads Hired:** 88%  
**2022 Grads Mean Salary:** \$71,133  
**Faculty:** John Murray, Maria Harrington  
**Graduates:** Richard Ugarte (Epic Games), Alexia Mandeville (Niantic)



## 3 SOUTHERN METHODIST UNIVERSITY

**2022 Grads Hired:** 89%  
**2022 Grads Mean Salary:** \$78,121  
**Faculty:** Myque Ouellette (Ultima, Ravenblade), Mike Porter (Halo 3, Shadowrun)  
**Graduates:** Jonathan To (narrative lead, Bungie), Chris Schmidt (BioWare)



## 4 ROCHESTER INSTITUTE OF TECHNOLOGY

**2022 Grads Hired:** 93%  
**2022 Grads Mean Salary:** \$74,429  
**Faculty:** David Schwartz, Flip Philips  
**Graduates:** Steven Van Slyke (co-inventor, OLED), Anna Sweet (CEO, Bad Robot Games)

### 5. UNIVERSITY OF SOUTHERN CALIFORNIA

**2022 Grads Hired:** 91%  
**2022 Grads Mean Salary:** \$75,000  
**Faculty:** Ed Zobrist (Epic Games), Marianne Krawczyk (God of War)

### 6. UNIVERSITY OF UTAH

**2022 Grads Hired:** 88%  
**2022 Grads Mean Salary:** \$97,116  
**Faculty:** Joe Barnes (Disney and Epic Games), Roger Altizer (Games Lab)  
**Graduates:** Doug Bowser (president, Nintendo of America), Nolan Bushnell (founder, Atari)

### 7. CLARK UNIVERSITY

**2022 Grads Hired:** 75%  
**2022 Grads Mean Salary:** \$65,600  
**Faculty:** Jonathan Rudder (Lord of the Rings Online), Ezra Cove (Dungeons and Dragons Online)  
**Graduates:** Katelyn Anthony (QA lead, Riot), William Parker (Wizards of the Coast)

### 8. DIGIPEN INSTITUTE OF TECHNOLOGY

**2022 Grads Hired:** 74%  
**2022 Grads Mean Salary:** \$121,100  
**Faculty:** Ellen Guon Beeman (EA, Microsoft, founder: Women in Games International), Claude Comair (co-founder, Nintendo Software Technology)  
**Graduates:** Kim Swift (Xbox Game Studios), Adam Brennecke (Obsidian Entertainment)

### 9. ABERTAY UNIVERSITY

**2022 Grads Hired:** 41%  
**2022 Grads Mean Salary:** \$64,000  
**Faculty:** Joseph deLappe, Ruth Falconer  
**Graduates:** David Jones (creator of Lemmings, Grand Theft Auto), Timea Tabori (Rockstar)

### 10. BREDA UNIVERSITY OF APPLIED SCIENCES

**2022 Grads Hired:** 81%  
**2022 Grads Mean Salary:** \$43,500  
**Faculty:** David Wessman (Saints Row, X-Wing series), Mata Haggis (Resident Evil, Dying Light)  
**Graduates:** Jim Hendriks (Ubisoft), Nathalie Jankie (Remedy Entertainment)

### 11. MICHIGAN STATE UNIVERSITY

**2022 Grads Hired:** 42%  
**2022 Grads Mean Salary:** \$62,000  
**Faculty:** Jeremy Gibson Bond (Maxis, Disney), Ricardo Guimaraes (Blizzard)  
**Graduates:** Brian Murray (creative director, EA), Chris Bray (Bethesda)

### 12. DREXEL UNIVERSITY

**2022 Grads Hired:** 90%  
**2022 Grads Mean Salary:** \$74,000  
**Faculty:** Tony Rowe (LucasArts), Paul Diefenbach (OpenWorlds)  
**Graduates:** Glen Winters (Red Dead Redemption 2), Greg Lebanov (Wandersong, Chicory)

### 13. THE UNIVERSITY OF TEXAS AT DALLAS

**2022 Grads Mean Salary:** \$47,000  
**Faculty:** Nelson Lim (Lucasfilm), Bryon Caldwell (Industrial Light & Magic)  
**Graduates:** Matt Charles (Gearbox)

### 14. WORCESTER POLYTECHNIC INSTITUTE

**2022 Grads Hired:** 71%  
**2022 Grads Mean Salary:** \$82,000  
**Faculty:** Brian Moriarty (Infocom Games, founding member of GDC), Keith Zizza (Bioshock Infinite)  
**Graduates:** Michael Gesner (Riot), Jon Radoff (Beamable)



## TOP 50 GAME DESIGN GRADUATE PROGRAMS (CONT)

### 15. UNIVERSITY OF CALIFORNIA SANTA CRUZ

**2022 Grads Hired:** 85%

**2022 Grads Mean Salary:** \$86,500

**Faculty:** Katherine Isbister (Microsoft, EA, Ubisoft), Michael John (Spyro)

**Graduates:** Jon Webb (director of global product strategy, PlayStation), Michael Toy (Rogue)

### 16. SAVANNAH COLLEGE OF ART AND DESIGN

**2022 Grads Hired:** 63%

**2022 Grads Mean Salary:** \$79,278

**Faculty:** Bastien Lecouge-Deharme, Greg Lyons

**Graduates:** Harrison Pink (Diablo IV), Matt Ward (Gearbox)

### 17. FULL SAIL UNIVERSITY

**2022 Grads Hired:** 37%

**2022 Grads Mean Salary:** \$59,000

**Faculty:** Patrick Kelly (Namco, LucasArts), Miguel Molinari (Arkadium)

**Graduates:** Jason Citron (creator & CEO, Discord), Kerry Allen (id Software)

### 18. NORTHEASTERN UNIVERSITY

**2022 Grads Hired:** 22%

**2022 Grads Mean Salary:** \$80,000

**Faculty:** Casper Harteveld (Serious Games)

**Graduates:** Aslanta Chen (PlayStation), Andrew Knollmeyer (Rockstar)

### 19. RENSSELAER POLYTECHNIC INSTITUTE

**2022 Grads Hired:** 60%

**2022 Grads Mean Salary:** \$68,400

**Faculty:** Maurice Suckling (Civ 6, Fortnite)

**Graduates:** Curtis Priem (co-founder, NVIDIA), Karthik Bala (CEO, Velan Studios)

### 20. BRADLEY UNIVERSITY

**2022 Grads Hired:** 80%

**Faculty:** Aaron Villarreal (Arkane, Blizzard), Ryan McCabe (Insomniac)

**Graduates:** Renae Radford (cinematics lead, Blizzard), Austin Holt (Amazon Games)

### 21. AMERICAN UNIVERSITY

**2022 Grads Hired:** 85%

**2022 Grads Mean Salary:** \$80,000

**Faculty:** Benjamin Stokes (co-founder, Games 4 Change), Andrew Phelps

**Graduates:** Austin Branion (Amazon Games), Alex Cha (Modern Technology Solutions)

### 22. LAGUNA COLLEGE OF ART + DESIGN

**2022 Grads Hired:** 66%

**2022 Grads Mean Salary:** \$84,000

**Faculty:** Curtiss Murphy (Mobilityware), David Jaloza (2K)

**Graduates:** Miray Hepguler (BioWare), Andre Thomas (Triseum)

### 23. UNIVERSITY OF WISCONSIN-STOUT

**2022 Grads Hired:** 20%

**2022 Grads Mean Salary:** \$42,100

**Faculty:** Dave Beck

**Graduates:** Chris Grun (DreamWorks), Mae Techmeier (Monolith)

### 24. UNIVERSITY OF MALTA

**2022 Grads Hired:** 100%

**Faculty:** Stefano Gualeni (Something Something Soup Something), Georgios Yannakakis

**Graduates:** David Chircop (CD Projekt Red), Stylianos Avramidis (Blackbird Interactive)

### 25. DEPAUL UNIVERSITY

**Faculty:** Ed Keenan (Midway

Games), Brian Schrank (EA, Cartoon Network)

**Graduates:** Mark Nauta (lead designer, XCOM), Jay Pecho (EA)



## HOMEWORK: Iteration Quantity is a quality all its own

A large part of the work when it comes to designing videogames involves solving problems. Whether it's bugs in the code, issues with how systems interact, or unintended player behavior giving you headaches, there will always be tricky conundrums requiring smart solutions. How you go about them will be instrumental in determining your success as a designer. While there are many ways to go about solving problems in games, one of the best is iteration. Come up with a bunch of different ideas on how to solve the problem and test them out. They won't all work, but each one will give you a little more of an idea as to what the path forward should be.

**EXAMPLE:** When Blizzard was developing Diablo 3, they had a thorny situation that needed attention. In the previous installation, players could gather full rejuvenation potions, which would instantly heal their characters to full health and mana. This meant that any damage that didn't threaten to kill the character in one hit became largely irrelevant, and minimized the usefulness of all kinds of defensive abilities that reduced damage or healed the player. They coded and implemented a bunch of ways to fix the issue, and through this process came up with the health globe idea that ultimately ended up working.

**HOMEWORK:** Imagine you're developing the next great battle royale, like Fortnite or Apex Legends. The game is great, but it's taking too long for players to find one another. We've all seen the shrinking circle, but what are three or four other solutions you could use? Then apply this method to a game that you're working on!



# THE ART AND SCIENCE OF USER INTERFACE DESIGN

The first time you fire up a new videogame is always a bit of a thrill. Whether it's a small indie puzzler or a massive open world game from a big studio, possibilities abound. And the immediate thing you're going to do is interact with the game's user interface (UI). An element of game design that crosses boundaries between art style, game mechanics, and brand management—user interface design is a critical part of the creation of any game.

Generally speaking, user interface design is the creation of the visual components through which the player interacts with the game. Think start menus, heads-up displays, health bars, map icons, crafting bench interfaces, and the like. The way these things are structured in the game and how player psychology impacts those structures is called the user experience, or UX. UI and UX designers work closely together to make sure that the flow of information in the game makes sense, and distributes the information a player needs to know quickly and efficiently.

The first thing that comes to my mind when I think about UI is the heads-up display, or HUD. This is the frame that overlays the screen that contains all

kinds of information—in a shooter, it might have remaining bullets, a minimap, maybe a bar that indicates what button to press to pull out my Explodo-matic 3,000. In a trading card game, it will show me how much life and mana I have, cards in hand, remaining cards in my deck, that sort of thing.

Some games will have extensive HUDs with tons of information, like TCGs or massive 4x strategy games. Any time the complexity of the game requires a bunch of information to be displayed simultaneously, this is what you'll see. In other types of games, like horror games or narrative adventures, you might have very minimal HUD elements. Here they take the back seat to a game's ambience, and the less intrusive they are

the less they pull you out of the suspense of the moment. Some important game information can be conveyed effectively to the player without the use of a HUD—think Mario getting bigger when he finds a mushroom, or your character shivering in *Monster Hunter World* when it gets snowy.

One neat element a game designer can use to shake things up is by putting elements of information that might normally be found in an overlay inside the game world. Maybe your character picks up an actual, physical map and looks at it like in *Far Cry 2* or checks the Pip Boy on their wrist in *Fallout 4*.

UI designers also have to craft all of the other elements that convey information—level maps, menus, quest logs, ability icons and sometimes even narrative elements on a game's website. With all of these separate systems being part of the same game, it's important that they have consistent visual DNA. Between font choice, color selection, and clear design elements, everything should feel like it belongs together.

Another way a UI designer can bring consistency to their game is through motion graphics. *Persona 5* has a famously great UI, in no small part because every time the player brings up a menu, there's a stylish flourish that comes with it. The animation included in the movement of the menus or the way a character pulls out their cell phone to make a call from a menu of numbers are great examples of the way motion graphics can be used as a companion to the user interface.

Fantastic user interface or user experience design is about knowing your target audience well and bringing them the best information in the best way. If you're the type of person that took as long tinkering with Leon's attache case in *Resident Evil 4* as you did shooting zombies, or that loves to rearrange their furniture to see what different layouts might look like, UI design might be for you.





# DEAD MAN WALKING

The **DEAD SPACE** remake is a promising portent for the series' future

By Sean Martin

“**T**winkle twinkle little star, how I wonder what you are?” a dying woman sings over the elevator speakers as I climb through the decks of the doomed ship Ishimura. I’m not a big fan of that whole nursery rhyme horror cliché, but it fits for *Dead Space*. This was never a series about exploring the wonders of the universe or of space as a wild frontier where the worst evil we can imagine is corporate greed dominating the stars.

No, this is a game about how space is downright scary; an abyss into which we gaze and see our nightmares reflected right back. It’s hard to marvel at the universe with a Necromorph’s blades in

your gut. Necromorph is a fancy space word for zombie, by the way, and you’ll come to know them intimately in *Dead Space*, as they jump-scare you every few minutes for the next ten or so hours. If there’s one thing I’m glad this remake didn’t change, it’s the Necromorph jumping-out-of-vent scream that almost sounds as if they’re as surprised as you are. It’s good to be back on the Ishimura, even if this is a remake instead of a fourth game.

It’s a fact made all the more frustrating by how much this remake feels like a brand-new *Dead Space*. Sure, it’s got the same bleak

atmosphere, overarching narrative and the same ol’ Necromorphs, but it could be the foundation for *Dead Space* moving forward; proof that this survival horror formula is as strong

now as it was when the original launched in 2008. And I think a big part of this remake’s strength is down to the fact that it builds on what was already there, rather than trying to make something brand-new.

**This survival horror formula is as strong now as it was in 2008**

## MEET YOUR MARKER

Isaac Clarke is your average space engineer, hoping to see his girlfriend Nicole after a long time spent apart. Instead, he finds himself working the worst shift in human history. As you bounce from crisis to crisis trying to keep the dying planet-cracker USG Ishimura on its last legs, you also have to contend with the ship’s

## NEED TO KNOW

**WHAT IS IT?**  
A remake of the 2008 survival horror game *Dead Space*

**EXPECT TO PAY**  
\$60

**DEVELOPER**  
Motive

**PUBLISHER**  
EA

**REVIEWED ON**  
Intel i5-12400F,  
16GB RAM,  
GeForce RTX 2060

**MULTIPLAYER**  
No

**LINK**  
[ea.com/games/dead-space](http://ea.com/games/dead-space)

changed crew, now Necromorphs of all shapes and sizes who very much want to make friends. Your only defense? An array of sci-fi power tools that turn out to be pretty effective at dismembering aliens.

*Dead Space* manages more in ten hours than most games do in thirty, and that narrative has been further focused in the remake. Isaac actually talks now and this helps make him feel like an active participant in the story. His dialog does err a little towards action hero at times with lines like, “I’m all out of good ideas, so guess what’s left,” but you do get more of a sense of him barely keeping his shit together as the crisis continues to escalate.

There are only so many limbs you can slice off, after all, even if the remake’s weaponry does feel very good. There was a lot of talk about the new horrendous-sounding Necromorph Peeling system in advance of the remake, but besides being a strong visual indicator of weakened limbs and what to chop, blowing more bits off Necromorphs is definitely a good time. My favorite thing has been blasting them point blank with the Force Gun and watching as an all-but-fleshless skeleton stands up like a chicken carcass put through one of those industrial blow dryers.

Brutalizing Necromorphs is an iconic part of *Dead Space*’s cycle of catharsis: you jump scare me, I reverse-engineer you from existence, and this is how we cope with fear. Along with the great guns, there are also new alt-fire and upgrade options for weapons. The weird bullet cyclone for the Pulse Rifle has been swapped for a proximity grenade launcher, and the Line Gun can lay down tripwires. For a Plasma Cutter purist like me, it’s nice to be able to place a perimeter of traps and get a bit more use out of the other guns.

Most of the big ticket boss fights, such as tangling with the Necromorph Hunter in chapter five,

## KNOW YOUR NECROMORPHS

From *Necro-A* to *Necro-B*



### BRUTES

These are hard to kill, especially if you shoot them from the front. Your best bet is to slow them with stasis, then circle around and use the Ripper to slice ‘em.



### DIVIDERS

Though these Necromorphs are rare and hunt alone, be wary of their grab attacks. Once dead, their bodies ‘divide’ and all the parts attack at once.



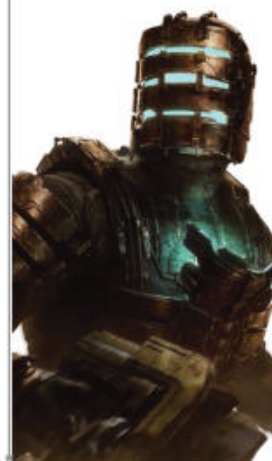
### GUARDIANS

You’ll likely hear this wall-mounted Necromorph before you see it. Sever the limbs attaching it to the wall before it fires out too many turrets.

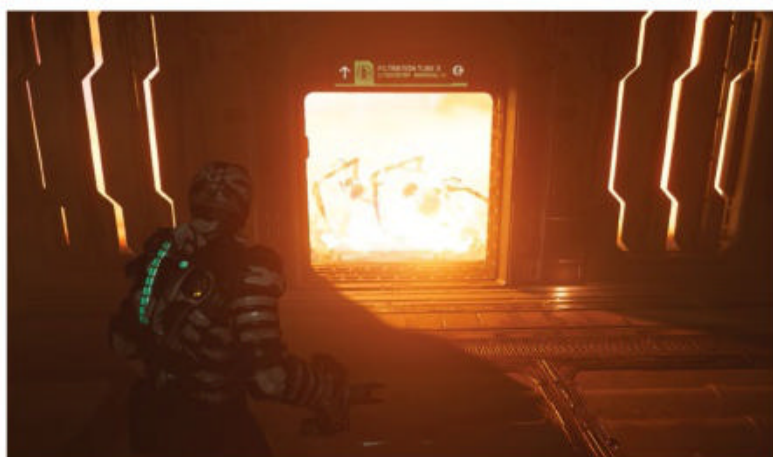


### HUNTERS

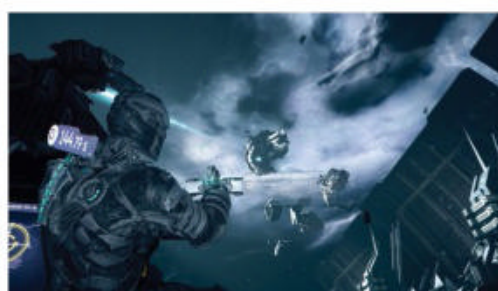
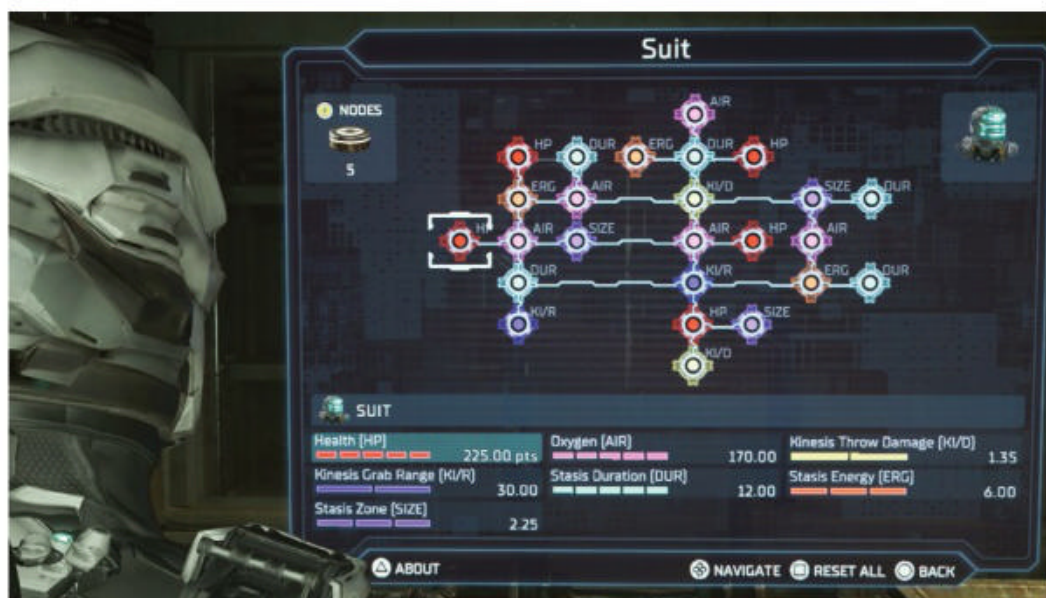
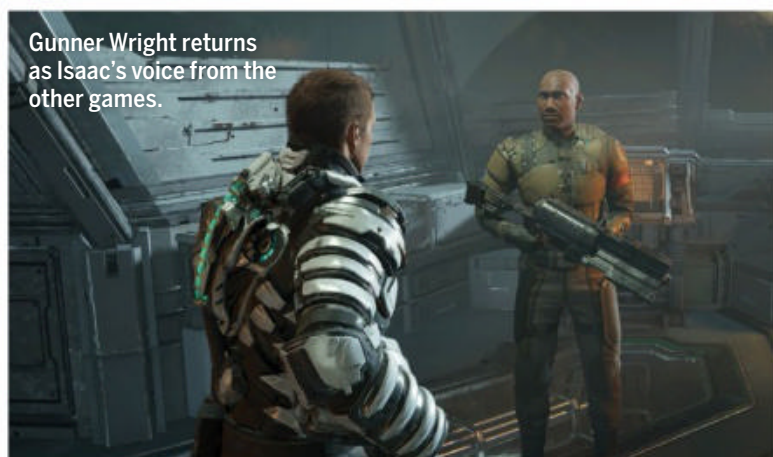
There isn’t much you do against a Hunter except run. These Necromorphs regenerate, so chop off their legs and use stasis to slow them down.







Gunner Wright returns as Isaac's voice from the other games.



**FAR LEFT:** Your suit and weapons feature new special abilities.



**BELOW:** Both of the Leviathan boss fights now take place in free-floating zero-G.





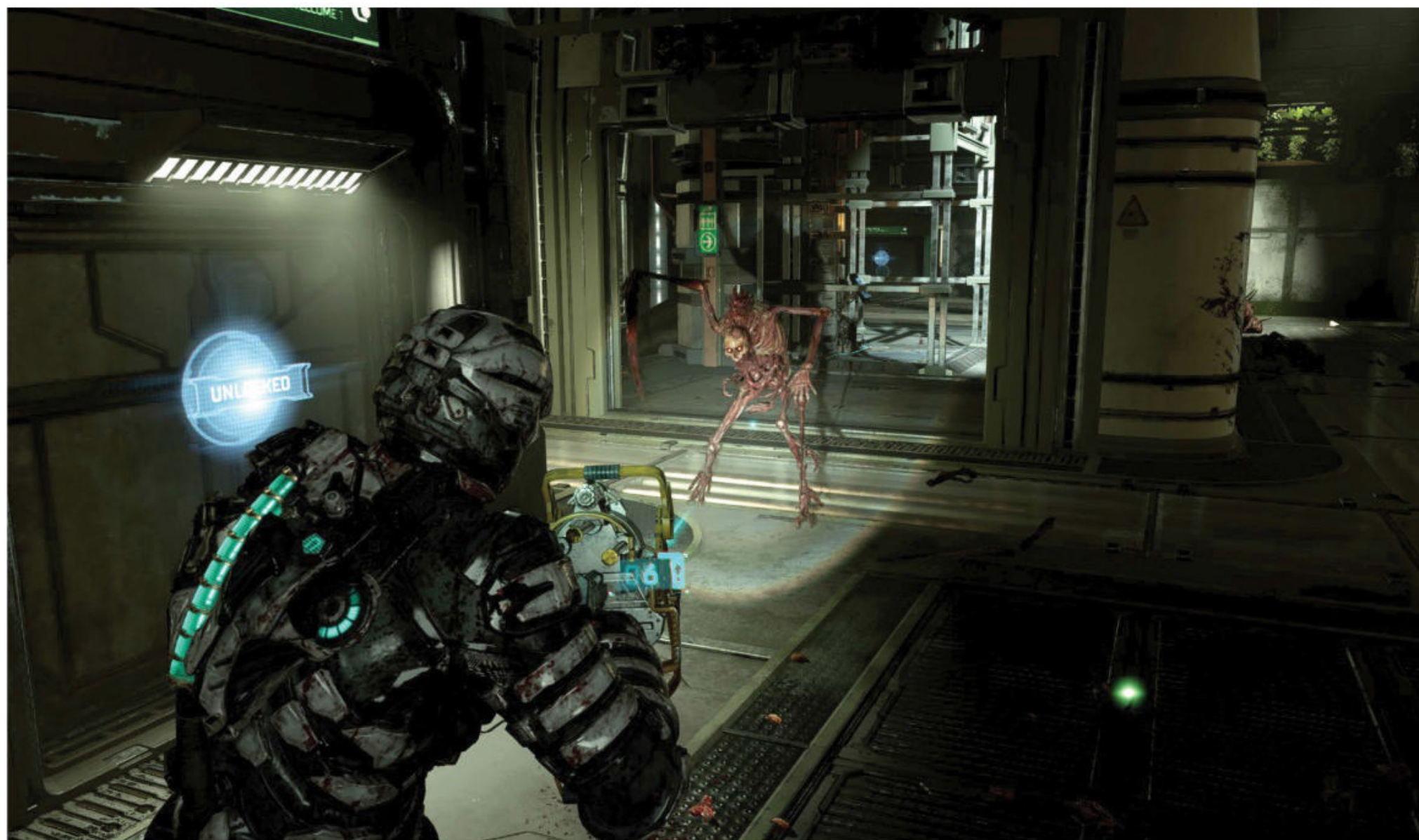
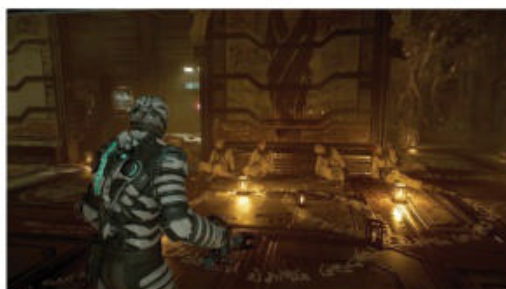
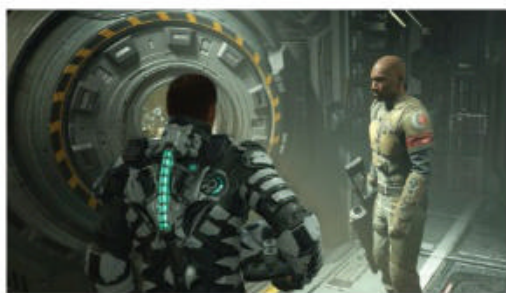
# REVIEW

## *Dead Space*



**FAR RIGHT:** *Dead Space* recaptures the same bleak atmosphere as the original.

**BELOW:** Necromorph Peeling lets you brutalise baddies in all new ways.





» play out frame for frame—though they definitely look a hell of a lot better. That said, both of the Leviathan boss fights are infinitely more fun now *Dead Space 2* and *3*'s free floating zero-G has been added. The second boss fight in particular has been entirely redesigned, with you gliding around the hulking mass and manually commandeering ADS cannons to blast away at its weak points.

### FIGHT GRAVITY

*Dead Space*'s zero-G isn't just for tackling hulking space monstrosities, though.

Another change is the inclusion of new no-gravity puzzles, and there's nothing quite like sitting back and floating as you try to figure out some complex space engineering problem. I found these sequences to be a nice respite from fighting Necromorphs, letting you think about something other than alien amputation for a little while, and they're a strong addition to the remake. Fixing the Comms Array in particular is a very chill puzzle that lets you glide around in the middle of a big dome, swapping out parts, and repositioning to admire your work. There are even some open zero-G sections akin to the ship graveyard in *Dead Space 3* that you can explore at will.

It's just one of the many changes that work to enhance the original. Circuit breakers are another wonderful example. These power-switchers have been added to older sections as a form of devil's bargain, letting you choose what to turn on and off. You want elevator access? Sure, but it'll cost you either lights or oxygen. It's a pick-your-poison mechanic that lets players select their preferred difficulty modifier and fight through the area. One of my favorite Circuit Breakers in Hydroponics is purely psychological, letting you turn off 'Jungle Ambiance' so you can hear the entity living in the vents.

While there used to be few reasons to return to older areas of the Ishimura, the remake adds locked doors and containers requiring security clearance to open, to motivate you to explore fully for extra items. Since you gain clearance as you progress through the story, you have to remember the location of

these secret stashes, Metroidvania-style, and return once you've got the upgrades. Coupled with the new random encounters and visual and audio cues, it goes a long way toward making previous areas feel a bit more occupied. Even a little expedition to open a locked room can be a dangerous proposition.

## It's amazing so much effort has gone into re-developing the original

### REDEVELOPMENT

This *Dead Space* remake could also be termed a narrative one, since while it doesn't change the major story beats or plot of the original it does cast them in a completely

new light via sidequests, holographics logs, new characters and through Isaac now being able to speak. People like Elizabeth Cross, who you never previously interacted with directly, are now fully fledged characters who have their own individual plotlines. The sidequests also offer Nicole's perspective on what was happening aboard the Ishimura, and give you more insight into the cruelties of the main antagonist, Dr Mercer, who's now a more fully-developed character.

Motive's done a great job in judiciously adding layers to the original story, focusing on existing but underdeveloped elements, and just generally giving players more

insight into the Ishimura and its conflicts prior to Isaac's arrival. It makes the first *Dead Space* fit far better with the other games from a lore and continuity perspective, but it's the execution that really lands, with no oversteps or overly significant changes. Subsequent playthroughs even provide extra audio logs and Easter eggs.

Yet the overall effect is weirdly frustrating. On one level it's amazing that so much effort has gone into re-developing the original game's plotline, but at the same time, this effort could've been equally well applied to a new *Dead Space*. It's hard not to feel the same way about the improved sound design and visuals. The remake was built from the ground-up using the Frostbite engine, and looks and sounds incredible.

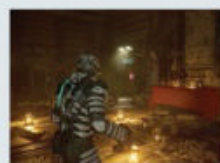
All of which mainly makes me want to play a new non-remade *Dead Space* game in 2023 with this production quality. Another aspect of the frustration is that another game might've had space to push some of the remake's new ideas and mechanics further.

But it also speaks to how strong this remake is that my primary complaint is wishing the care and effort went into a sequel. This game could have gone further in terms of adding replayability for older areas since, beyond weapon upgrades, you don't really need credits or ammo from Security Clearance stashes beyond a certain point. The sidequests mostly run parallel to the main story, too, so while they add a nice complementary layer, they don't add much extra gameplay.

It took me around 12 hours to complete everything on medium difficulty, but the remake also features new game plus with harder enemies and 12 hidden marker fragments that unlock an alternate ending if found. So even though it's a little on the shorter side, this is what *Dead Space* has always been: an intense, momentum-driven experience. Most of all, I'm just happy *Dead Space* is back and *Dead Space* is good. ■

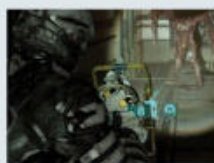
## DEAD NEW

### So what does the remake add?



#### IMPROVED VISUALS

The remake was built from the ground up in the Frostbite engine.



#### BETTER GUNS

Weapons have new special abilities; such as the Pulse Rifle's proximity grenades.



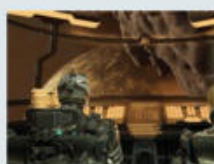
#### SIDE STORIES

New sidequests tell the story of Nicole, and Brant Harris, patient zero for the Necromorph attack.



#### NEW GAME+

After you've completed it you can jump back in with Phantom Necromorphs.



#### SECRET ENDING

If you can find 12 Marker Fragments in new game+ you can unlock a new ending for Isaac.



#### ZERO-G

*Dead Space* now has the free-floating sections seen in the second and third games.

### PC GAMER VERDICT

The *Dead Space* remake is a triumphant return for the beloved survival horror series. Hopefully more will follow.

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# ON THE CRUISE

**ONE PIECE ODYSSEY** is an easy-going JRPG romp through the manga's history

By Dominic Tarason

**T**wenty-five years ago, *Half-Life* hit PC, the first PlayStation ruled supreme and a little pirate adventure manga called *One Piece* began. Now I'm pushing 40, graying and still enjoying the ongoing adventures of rubberized ruffian Luffy and his Straw Hat Pirates. Celebrating a quarter-century at sea, the crew are off on a grand JRPG voyage with *One Piece Odyssey*: a sprawling, charming adventure that creaks under its own scope.

If you've no idea what *One Piece* is, or have only seen a few episodes of the anime, *Odyssey* probably isn't for you. It's set around 750 episodes into the anime, and assumes knowledge of its characters, their abilities, and their histories. On top of that, most of the game is dedicated to (loosely) retelling the events of four major story arcs, these reprized adventures bookended by a story written specifically for the game.

While manga author Eiichiro Oda had minimal input in *Odyssey's* story, he did contribute some concepts and creature designs, including some adorably doofy monsters. *Odyssey* strands Luffy and crew on Waford, a forgotten island inhabited by a pair of new characters: big-haired explorer Adio and mysterious local girl Lim, who magically strips the crew of their powers before realizing they're the good kind of pirates. While mercifully no one has amnesia, the Straw Hat crew have forgotten how to fight, so they're off on an adventure to recover the memory cubes holding their lost battle prowess, and then into the World of Memory to relive four of their most important adventures and brush up on their beatdowns.

## THE BLACK SPOT

*Odyssey* is effectively a massive filler arc—the kind of questionably canonical side adventure the anime has to insert to keep the TV show running weekly. While *Odyssey's* new story and characters are decent enough for *One Piece*, where the

game narratively shines is, oddly, in retreading old ground.

While these adventures in Memoria are based on past story arcs (Alabasta, Water Seven, Marineford and Dressrosa), the Straw Hat Pirates know this is just a rough approximation of their past adventures, and their actions won't change what actually happened. Despite this they all resolve to do

things better. Even if it's just a dream, they're out to save everyone they couldn't, win unwinnable fights and create a happier ending. What could have been a glorified clip show takes on an unexpectedly bittersweet and

**“It was hard for me to stay annoyed at *Odyssey*—or the giant crab”**

## NEED TO KNOW

### WHAT IS IT?

A turn-based JRPG romp through *One Piece's* past

### EXPECT TO PAY

\$60

### DEVELOPER

ILCA, Inc

### PUBLISHER

Bandai Namco Entertainment

### REVIEWED ON

Intel i9-9900k, 32GB RAM, GeForce 2080 Ti

### MULTIPLAYER

None

### LINK

en.bandainamcoent.eu/one-piece/one-piece-odyssey

personal edge, with the heroes getting a chance to see lost and fallen friends one more time.

It makes for a rich well of character beats compared to the average *One Piece* filler anime, with each member of the crew getting time in the spotlight to pick apart their feelings and come to terms with their losses. The manga frequently has characters crying rivers of tears over lost friends or sad farewells, while *Odyssey* trades more in coming to terms with the past. Sadly, funky skellington Brook only joins the party late in the game, but the rest of the crew are given room to breathe. At least when they're not getting sidetracked.

*Odyssey* is stuffed to bursting with padding, filler within the filler. It's not just sidequests, grinding and scouring maps for treasure—the main story often forgets where it's going. In one particularly egregious case, a chase across the desert to save a friend gets delayed by bandits stealing the crew's food, a monkey stealing Nami's wallet, a river of quicksand, a spelunking adventure to bypass the quicksand (which fails), and then a big cartoon crab turns up to just take everyone to their destination anyway.

It was hard for me to stay annoyed at *Odyssey*—or the giant crab for that matter. The distractions often lean into *One Piece's* sillier side, and even these weird story digressions lead to some spectacular boss fights and fun new monsters. There's some great encounters in the optional side-content too, including chasing the bounties on rival pirates who have their own comical gimmicks, like a crew that like to leap dramatically off cliff-tops, but haven't figured out the 'landing safely' part yet. But almost every part of *Odyssey* could use some trimming. Quests could be shortened, the grind reduced and backtracking excised to leave a leaner, faster game.

The main thing you'll be doing in *One Piece Odyssey* is getting into

## FRANKY'S FEATURES

*Anatomy of a (literally) self-made man*

### 1 HAIR/NOSE

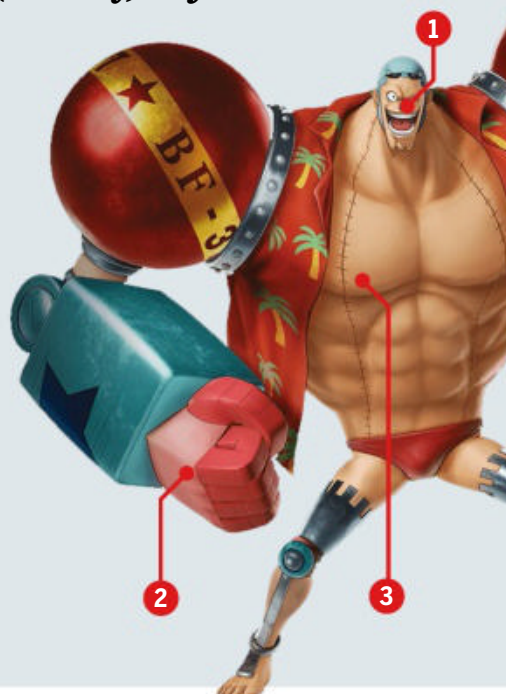
By pressing his nose for three seconds, Franky can cycle between several funky hairstyles.

### 2 HANDS

Good for punching, shipbuilding, and hiding an assortment of cannons and deadly energy beam emitters.

### 3 NIPPLES

Powerful headlights, capable of dazzling foes with his Nipple Light Special combat technique.





One Piece Odyssey



The world of One Piece is a super silly place.



**FAR LEFT:** Weird as the villains are, their goons are just as crazy and strange.



**BELOW:** Never underestimate the power of stretchy swan-themed novelty shoes.



Swan Bombardier Dive!



One Piece Odyssey



FAR RIGHT: Nami never misses a chance to shake down villains.

BELOW: Past, future, Luffy doesn't care... Or particularly understand.



Caption about the image goes in here





» turn-based JRPG fights, and fortunately, filler or no, battles are cleverer than I expected. I'd have been happy enough if this game mimicked *Dragon Quest*, but the developer put some real thought into how to replicate the sprawling, messy cartoon brawls of the source material in an accessible turn-based combat engine. I took on super-powered naval officers, screen-filling monsters and many caves full of bandits, and I was always happy to see the Straw Hat Pirates throwing hands against often overwhelming odds.

### EVERYBODY WAS KUNG-FU DUGONG

Battles in *One Piece Odyssey* are initially familiar—four of my characters taking turns to trade punches with a bunch of enemies – but the scale is novel. Each party member can engage with a separate enemy group of up to four enemies in their own part of the battlefield. While some attacks are limited to targeting nearby foes, others can be used to hit distant enemies, or go bowling for meatheads by slamming one mook into their nearby buddies. I'm especially fond of attacks that launch enemies toward a distant crewmate, leading to fun mid-battle banter. Some of Luffy's crew appreciate fresh targets, while others would prefer less on their plates.

Surprise bonus objectives called Dramatic Scenes are an extra twist. Sometimes the game will ask you to finish an enemy with a specific character or rescue a crewmate before they get hit by a big charge-up attack. Completing these objectives can give a hefty XP boost, and sometimes the system is used to inject a little more character into the battles too. If Sanji and Zoro are standing together, their rivalry might result in some banter and their Technique Points (this game's MP equivalent) being fully recharged.

Despite all of these neat details, *One Piece Odyssey* lacks difficulty settings or scaling, meaning the first five to ten hours are extremely easy. Even without paying attention to stats and largely ignoring synergies between characters, it wasn't until 15 hours into *Odyssey* that I saw my first character knocked out, and a quick

healing item saw them revived just a few seconds later. The difficulty does even out a bit after that point, but that's quite a long time to wait for any kind of challenge.

### SMOOTH SAILING

Still, even when they're easy, the fights are fun to watch. *One Piece* is beautifully replicated, capturing the visual tone of the anime, but channeling a little of the manga's style by rendering shadows as increasingly dense shading lines, mimicking Oda's art. It's a deeply charming

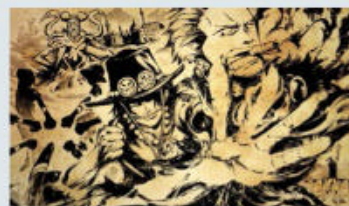
detail that felt so natural I didn't notice it at first. It helps the exaggerated, googly-eyed cartoon monster designs work in 3D and fit in naturally with the more restrained geography.

While largely linear, the dungeons and towns of *One Piece Odyssey* are fun to wander through and poke at. In the overworld each character has their own interaction abilities: Luffy can cross gaps with his stretchy rubber arms, Zoro can slice through metal bars, Franky can build bridges over specific gaps, and Sanji can smell fresh ingredients a mile away. It's often worth taking the time to chat to the NPCs too. While not materially rewarding, they've got plenty of little

**“One Piece Odyssey lacks difficulty settings or scaling”**

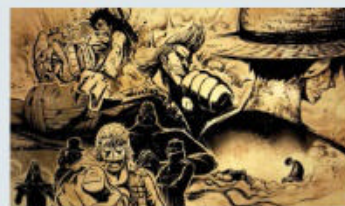
## ARCING TOWARDS ADVENTURE

*The manga story arcs featured in Odyssey*



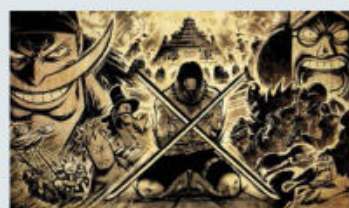
### ALABASTA

Luffy and crew save a desert kingdom from a casino-owning superpowered gangster.



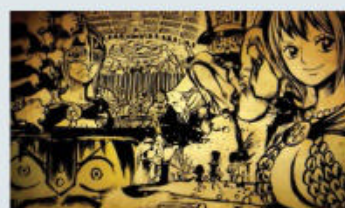
### WATER SEVEN

The search for a shipwright leads to a grand adventure and the loss of the Straw Hats' ship.



### MARINEFORD

Luffy's family take the stage on both sides of a titanic clash between pirates and the navy.



### DRESSROSA

Magic, mythology and one of *One Piece*'s most sadistic villains; the flamboyant Doflamingo.

gags to add—guards who forgot their weapons at home, bandits questioning their career choices, shopkeepers haggled into the ground by Nami, and sassy talking animals translated by Chopper.

Charming as the NPCs are, they don't get much in the way of animation, with conversations outside of major plot scenes looking a bit stiff and awkward. Thankfully, the combat animations are a treat. Most characters (not Brook—the undead get no respect) have an unreasonably long list of attacks representing almost every notable named technique or attack panel from the manga. These animations are fast, clear, and bursting with nostalgia. Thankfully there's an option to double the speed of all combat animations so they never grate like an overly long and unskippable *Final Fantasy* summon.

Tech-wise there's little to complain about here beyond a lack of ultrawide monitor support. There's a decent range of graphical and control settings, and it plays equally well on gamepad or mouse/keyboard. It even supports high refresh rates, which looks great in combat, although some cutscenes only run at 30fps. If you've got a Steam Deck, you'll probably want to cap the game to 30fps for consistency and battery savings, but you should have no problems otherwise. (Not quite a technical note, but *Odyssey* only contains Japanese audio. Subtitles or bust, and some incidental chatter doesn't get translated at all.)

*Odyssey* is a fine new adventure with an unexpectedly bittersweet tone, expanding the world of a venerable manga/anime. It celebrates 25 years of pirate adventures, while capturing the faintly sad vibes surrounding the announcement of its final saga. Much like the TV anime, it's a little flabby, and some trimming would have made for a consistently thrilling 30-hour game instead of a meandering 50-hour one. Still, if you've been following *One Piece* all this time, the chances are you're here for a leisurely cruise, rather than a race to the finish. ■

PC GAMER

VERDICT

*One Piece Odyssey* is cosy, meandering fun for *One Piece* fans, but swabbies should set sail from other ports.

78



# AW CHEESE

**PIZZA TOWER** is a non-stop, absurd, and wonderful slice of speedrunning action

By Scott McCrae

**N**intendo classics have always been ripe pickings for indie reimaginings. Series like *Mario* and *Zelda* have directly inspired greats like *Shovel Knight* and *Tunic*, and you can't walk five-feet without stepping into a new *Metroidvania*. But I've often pondered, where were the *Wario Land* revivals? Its mix of high-speed platforming, exploration and anarchic, slapstick energy made for some of the Game Boy's crown jewels.

Well, looks like I wasn't the only one to have that thought—in the last few years, we've suddenly had an influx of *Wario*-likes, from the breakout-inspired *Antonball Deluxe* and its upcoming sequel *Anton Blast*, to a *Doom* mod called *Treasure Tech*. *Pizza Tower* was announced right at the start of the trend, in 2018, and now it's finally here. Turns out it was worth the wait.

We join aging pizza chef Peppino Spaghetti as he's sitting in his pizzeria, worrying about making enough to keep the lights on. Suddenly, he's paid a visit by the nefarious Pizza Face—who is, of course, a giant floating pizza with a face. Pizza Face informs him that his home—the titular *Pizza Tower*—will soon shoot a giant laser at the pizzeria, destroying it instantly. And so begins Peppino's high-speed quest to climb the tower and stop his cheesy nemesis.

As you can probably tell, the game revels in the absurd. On top of the obvious *Wario Land* inspiration, it also blends in the vibes of off-beat '90s cartoons like *Ren & Stimpy*, for a potentially wacky mix.

Peppino himself is a joy to control. He may be a timid and anxious little chef, but he plays like an army tank with a Ferrari engine. He has a grab attack, a dash, a super jump and a dedicated taunt button which doubles as a parry—a Swiss-army knife of satisfying platformer tools. And even when he's at a full, manic sprint, the game is incredibly tight and responsive. It feels poised to be the next great speedrunning game, at

its best evoking the glory days of *Sonic the Hedgehog*.

## WAR-IO AND PEACE-ZA

Outside of boss fights, Peppino is invincible, with hits instead only taking away from your overall score—an idea that's complemented by a *Devil May Cry*-esque combo system. This also plays into the game's creatively grim power-ups, which

submit him to all sorts of punishment—including being set on fire, turned into a cheese monster, or flattened into a sentient pizza box. He suffers for his delicious art, but it never slows him down.

Each of the game's 19 levels has its own wild gimmick, from a chicken who sits in Peppino's hat granting him extra maneuverability with its

**Each of the game's 19 levels has its own wild gimmick**

## NEED TO KNOW

**WHAT IS IT?**  
A platformer inspired by *Wario Land* and '90s cartoons

**EXPECT TO PAY**  
\$20

**DEVELOPER**  
Tour De Pizza

**PUBLISHER**  
In-house

**REVIEWED ON**  
Steam Deck

**MULTIPLAYER**  
No

**LINK**  
[bit.ly/3kWehkw](https://bit.ly/3kWehkw)

wings, to a claw that grabs him and swings him around by his overalls. It's impressive that, with how much variety there is to discover, it really never stumbles, and it speaks to the versatility of Peppino's moveset that he fits so seamlessly into so many different scenarios.

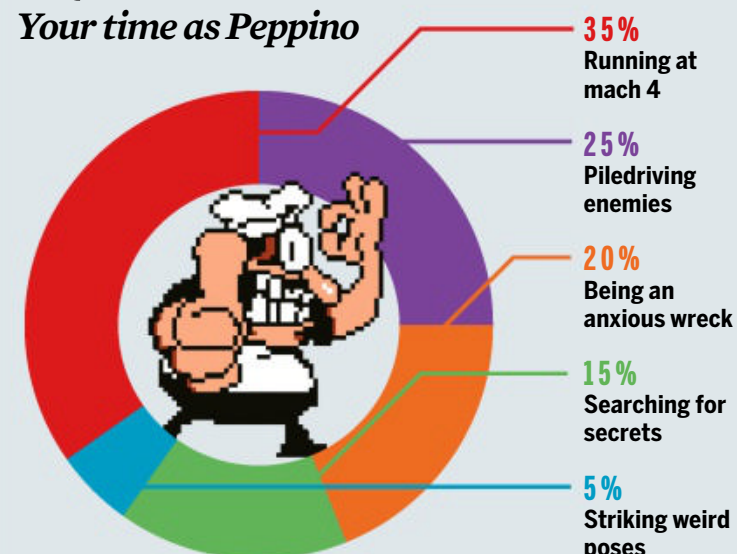
The game's bosses are equally as inventive. You'll face challenges like a gun duel with a sentient cheese cowboy, or a brawl with Peppino's arch-rival, The Noise, a mischievous gremlin who may or may not be based on a certain '80s pizza mascot. I won't spoil it here, but the final boss and subsequent finale of the game are both incredible, and match the likes of *Bayonetta* for sheer spectacle.

Throughout the whole of the game, the vibrant pixel art invests every enemy, item and background with twitchy, madcap personality. Peppino himself never speaks, yet feels like a rich, full character purely on the strength of his animations. Each level's title card takes that art style in a new direction—from a Terminator pastiche, to a homage to *Castlevania*. It's all a joy to behold, and it's genuinely funny, bursting with visual gags that had me cackling out loud more than anything I've played in years.

*Pizza Tower* is an unashamed ode to *Wario Land*—but in my eyes it has eclipsed it. Before, I was eagerly awaiting a new entry in Nintendo's series, but now I'm not too fussed, because it's hard to imagine it being as inventive and exciting as this imitator. It takes what made that series so great, and expands on it tenfold. The result is one of the best and most satisfying platformers out there today. To put it simply: you knead to play it. ■

## A QUICK SLICE

Your time as Peppino

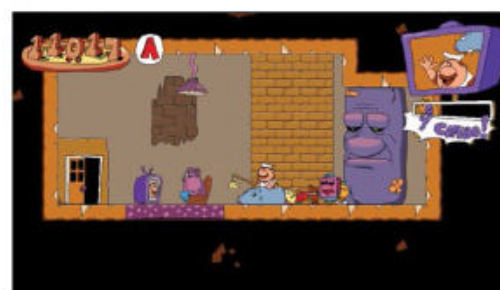
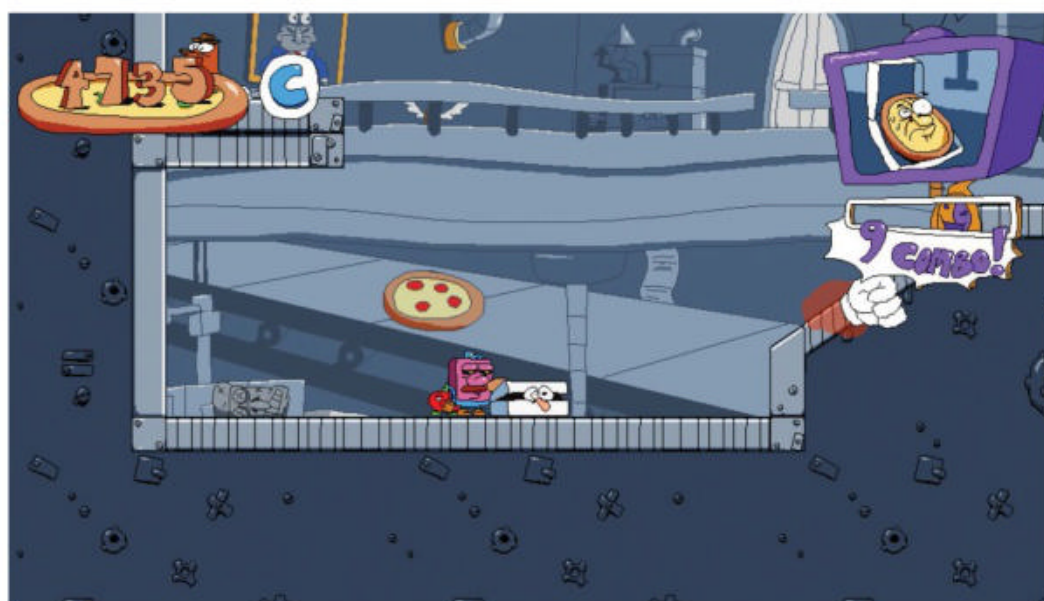


## PC GAMER VERDICT

A creative platformer that doesn't just do right by its inspiration *Wario Land*, but actually surpasses it.

**90**





**FAR LEFT:** Peppino loves pizza so much he can even cosplay as one.

**LEFT:** The good, the bad, and the tasty.

**BELOW:** Each level's title card uses a wildly different art style.





# TIMELESS CRISIS

**PERSONA 3 PORTABLE** creeps along, but it's still top-class

By Andrea Shearon

**A**ll of my worst thoughts strike in the ungodly hours after midnight. It's quiet, noises I wouldn't usually notice grow louder and I'm painfully aware of every shadowy figure in an unlit room. Sometimes my anxieties spiral out of control thanks to a weird pile of clothes or a blanketless foot. Sometimes it's just a little too dark, and the blank eerie abyss of a dark bedroom goes full-on existential horror.

*Persona 3 Portable's* fretful cast must share that midnight dread with me, though they have more supernatural terrors to blame. This RPG blend of high school and gothic apocalypse welcomes you with a litany of reminders that time is always running out, and before you even know what it's counting down to, *Persona 3* starts the clock. You've got a year to figure out who, or what, the race is actually against.

*Persona 3* shares most of the social RPG hallmarks I adored in *Persona 4* and *Persona 5*. There's the day-to-day studying, flirting, exams and other school-life woes. At night, the focus shifts to dungeon crawling through the mysterious labyrinth Tartarus. You'll do the usual *Persona*

## Layers of green, blue and yellow coat the world in shades of anxiety

collecting and Shadow slaying along the way, desperately searching for the omnipotent big bad torturing the city during its nightly Dark Hour. The PC debut is a port of the 2009 PSP retelling, which is divisive for its changes to the sort of

'director's cut' version of the game, the PlayStation 2's *Persona 3 FES*. It's better in some ways and questionable in others.

In *Portable*, Atlus streamlined its approach by replacing most 3D environments

with a 2D, point-and-click system and dropping the anime video cutscenes. Events play out through in-game models, text and static artwork. Think more visual novel-like, but with breaks to 3D for dungeon crawling and turn-based

## NEED TO KNOW

### WHAT IS IT?

A port of *Persona 3's* PSP release that includes a new protagonist, battle system changes, and a shift to visual novel-style gameplay

**EXPECT TO PAY**  
\$20

**DEVELOPER**  
Atlus

**PUBLISHER**  
Sega

**REVIEWED ON**  
Intel Core i7-10700k,  
64GB RAM,  
GeForce RTX 3080

**MULTIPLAYER**  
No

**LINK**  
[persona.atlusc.com](http://persona.atlusc.com)

battles. It also removes a lengthy epilogue added in *FES* but adds a female protagonist route.

Those differences are all the same here, but the *Persona 3 Portable* PC release throws in some quality-of-life tweaks, remastered graphics, and Japanese voiceover options.

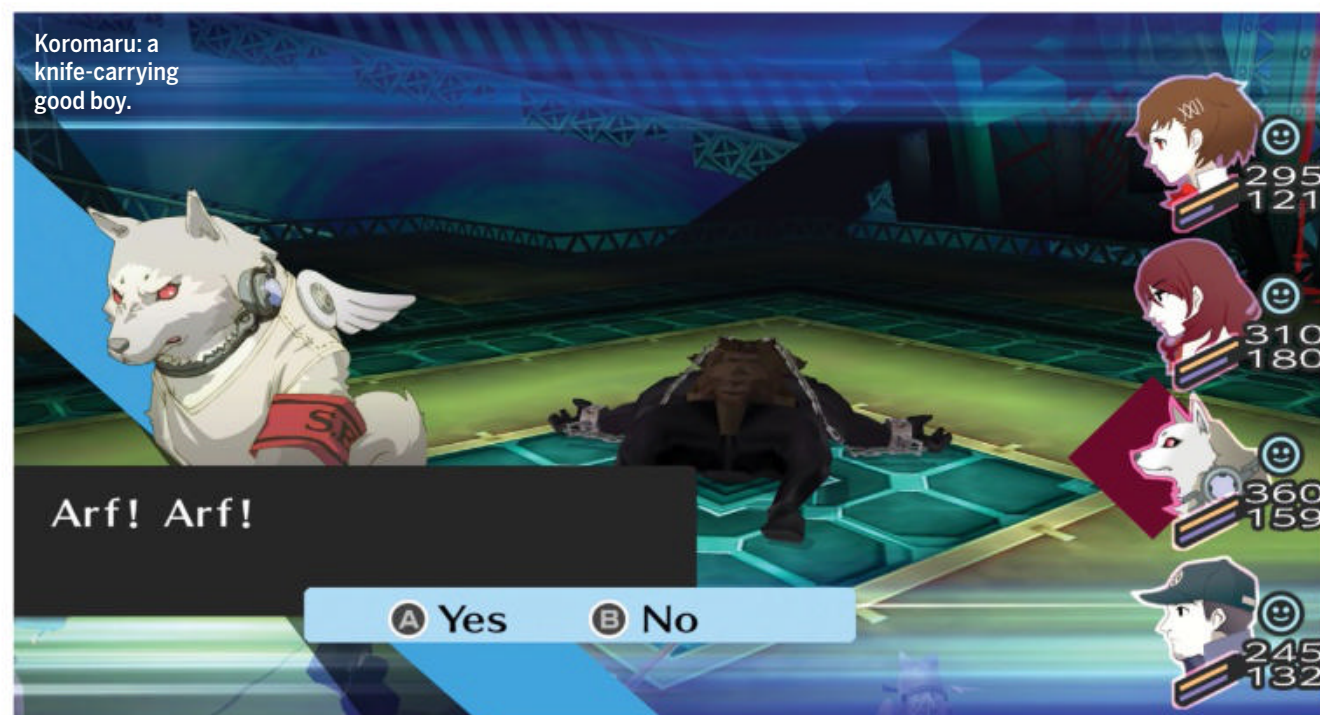
## DREADFULLY GOOD

*Portable's* PSP origins have grown obvious with age—some scenes work just fine without their original animations, while others fall a bit flat—but the setting remains just as eerie as it was years ago. Those highs and lows start early, when the main character summons their *Persona* for the first time with the gun-like Evoker pressed to their temple. The moment's tension, once highlighted with an anime cutscene, doesn't come through with just the in-game models. There's not much animation in the original, but this is one of the few moments where the absence hurts.

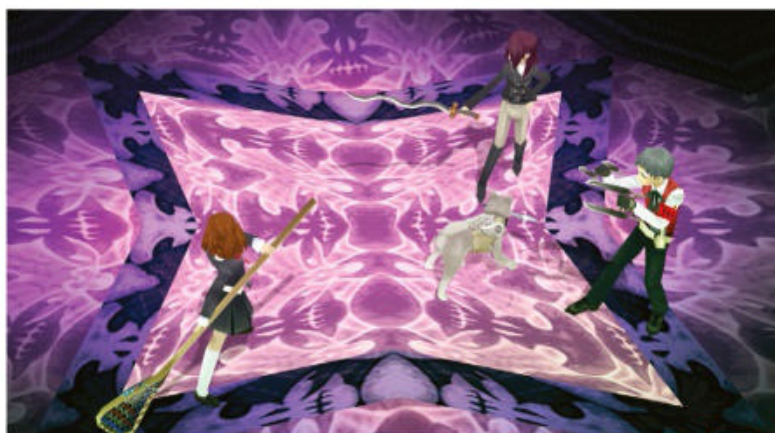
I miss those sequences, but the world's discomfort and struggles with mortality come through in the writing and art. Everything feels haunted, and when the clock ticks



**TOP:** 'Canon' be damned. She's got the better route.







**TOP RIGHT:** P3P ditches the original's wonky battle AI.

**ABOVE:** It may drag, but Tartarus is still unnerving.

over to the Dark Hour, *Persona 3* taps into cosmic unease with style. Grungy layers of green, blue and yellow coat the world in shades of anxiety, while the way Tartarus towers over everything establishes its horrifying scale. The Shadows inhabiting the massive dungeon come in all matter of unnatural shapes and movements. Their creepy distortions make climbing the hellish structure less dull, even when I get caught up in comical games of tag trying to sneak up on them.

I default to *Portable's* female protagonist primarily out of preference for a few Social Link changes made from the male version and the new music. Her iconic blue-bobbed counterpart is the guy referenced in more *Persona 3*-related spin-offs, and the game has a weird moment in character selection where it claims his arc is the better first experience. I see no point in heeding that warning. Neither path needs context from spin-offs or the *FES*-exclusive epilogue to bring its story to a satisfying end.

*Portable* cleans up the writing in some areas, too. By selecting the female route, I found several friendships and day-to-day interactions change for the better. A few members of your core team (Shinjiro, Akihiko and Junpei) only have Social Links available through her path, but you'll still maintain friendship options with the other



## A WEEK AT GEKKOUKAN HIGH

**50% CLIMBING TARTARUS**  
The party hits their step goal around floor two.

**20% VELVET ROOM**  
Time here should be shorter, but recipes for Persona fusions get complicated.

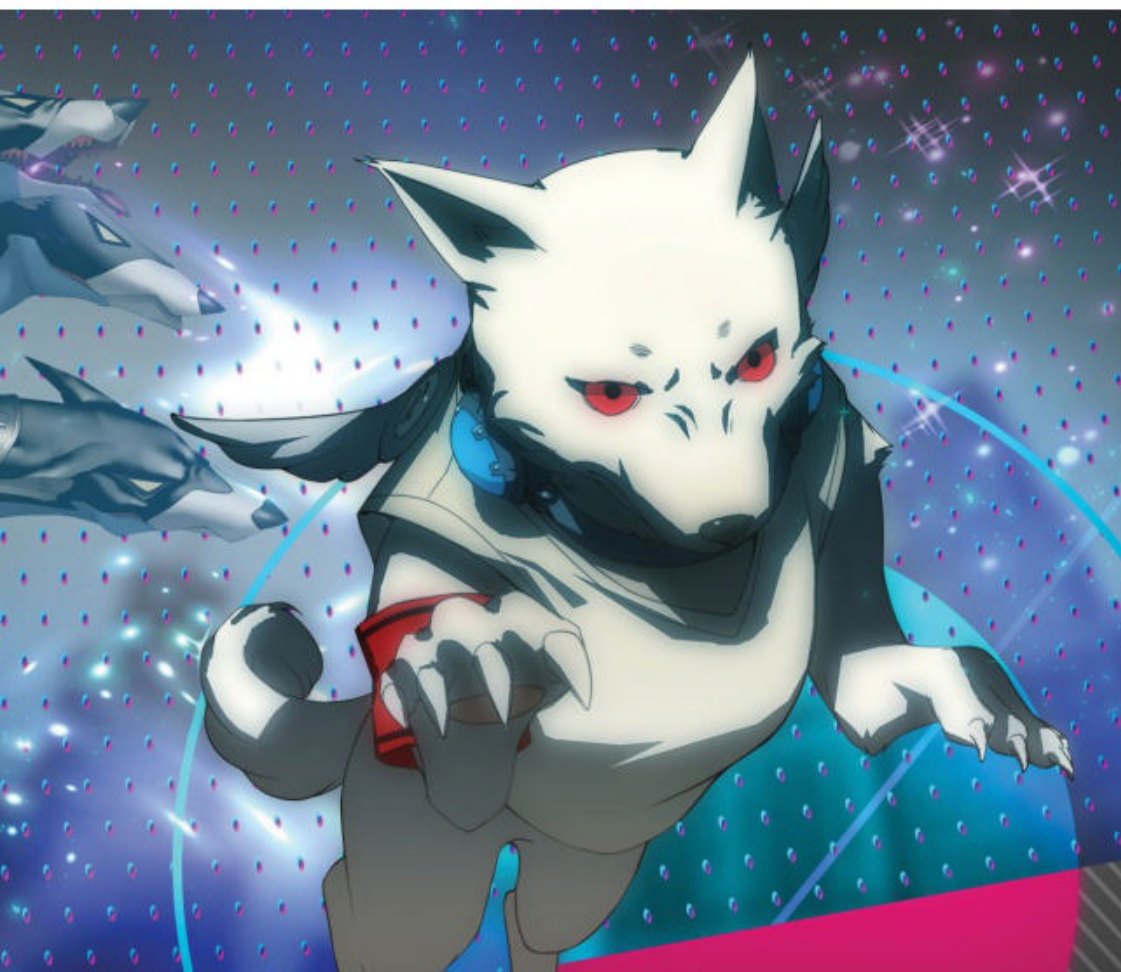
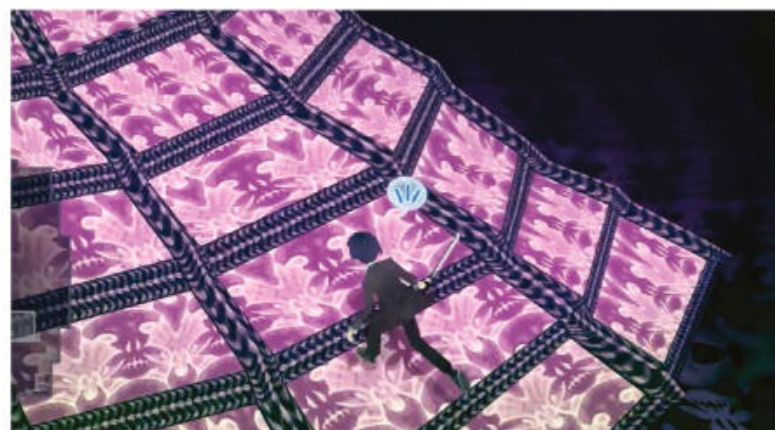
**5% FAILING EXAMS**  
Notice there's no section labelled 'studying for exams'.

**10% THE CREEPY LITTLE BOY**  
Conversations with the dead-eyed kid at the foot of my bed.

**15% WALKING KOROMARU**  
I'd welcome the apocalypse before I tell him no.



## Persona 3 Portable



» high-school girls in your party. Getting to know characters like Junpei—the resident tough guy—makes his foot-in-mouth babbling more empathetic. Pivotal story beats retain their themes with either protagonist, but I find those turning points more fulfilling after deepening relationships with the crew.

**TOP:** It's an overall upgrade, but some backgrounds scale up rough.

### IT'S A LONG WAY UP

While *Persona 3*'s art direction, cast and constant ruminations on fear make it one of Atlus' best, the monotonous dungeon crawling does not. You'll have the option to visit Tartarus on most nights, but the skyscraper-like dungeon isn't nearly as dynamic as those found in *Persona 4* or *Persona 5*. Conceptually and visually, a looming hell tower that ruptures the city skyline every night absolutely rules, but in practice, it adds hours of endless are-we-there-yet grind to the journey.

Combat hurts and helps. *Portable* is the better version of *Persona 3*'s battle system. On the PS2, you only had control over the main character's actions, and AI commanded everyone else. *Portable* lets the player control the entire party, so the game no longer feels punitive thanks to AI goofs. That was always one of my biggest gripes with *FES*—silently praying for Mitsuru to heal me, only to watch her consign me to death.

It wouldn't be *Persona* without collecting the sometimes horrifying,

## THE SOCIAL HOUR

*Social Links do more than just empower Personas*



### SHINJIRO ARAGAKI

He's not quite the hardass he pretends to be, but that may go unnoticed if you miss his interactions with the female protagonist.



### MITSURU KIRIHO

She may not be a romance option, but Mitsuru's Social Link certainly feels more intimate than friendship from the female protagonist's perspective.



### AKIHIKO SANADA

Akihiko's a little more cool and confident in battle. *Persona 3*'s story touches on the loss of his sister but his Social Link dives into how that grief drives his day-to-day.



### KOROMARU

Koromaru's design and Social Link are based on Japan's famously loyal pup, Hachikō. His tale of devotion and love fits perfectly into the setting's challenges.



sometimes adorable demons you'll summon along the way. Fusing together Personas excites the part of my brain that loves an Excel spreadsheet, but how that info is packaged makes a world of difference. I've got a lot of love for completing the Persona Compendium with every demon combination, but dipping in and out of more complex recipes to look for a certain skill or creature wears on me.

It's not entirely fair, but it's hard not to compare *P3P*'s demon recipes to its modern successors here. While the fifth game simplified things like the three-way fusion and paced its options, *Portable* dumps a list on the table and lets me piece them all together in a complex game of Guess Who. There were times I took more care, searching diligently for the creatures I needed, but I often performed the equivalent of opening up my fridge at night and grabbing a fistful of shredded cheese. I have no idea if this meets my nutritional needs, but I can't be bothered to cook much else.

This combat feels like a rough draft for later *Personas*, but I still appreciate the turn-based combos present throughout the series. You'll encounter roaming Shadows, try to strike them first to begin the encounter, then analyze and exploit their elemental weakness. Even after all these years, I still haven't learned my lesson and occasionally try to brute-force my way through.

Shadows punish that behavior even on normal difficulty, wiping my party if I don't apply thoughtful strategies. Depending on how long I've spent climbing Tartarus for the night, I'll either rave about how tight and satisfying the whole process is or bemoan how it drags.

### DRAG-AND-CLICK

*Portable*'s pivot from a 3D overworld to a 2D environment remains one of its more contentious choices, but in retrospect, you're stuck navigating the same handful of teensy 'open' maps for damn near 70 hours. I'll take the accelerated point-and-click movement. I say point-and-click, but

that's not entirely accurate, either. It's more drag-and-click, which can be as tedious as it sounds without customizing the controls. Instead of hovering over a target and left-clicking, imagine your mouse

emulating an analogue stick. On the world map, the PSP-era cursor must slide from point a to point b to make a selection. You can accelerate the movement speed, and simple double-clicking seemed to work when there wasn't much distance for the cursor to travel. It was a bit finicky, but if you set a keybind to make the movement faster, it's not bad. I recommend plugging in a controller or using the Steam Deck.

The PC version's configuration options offer plenty of remappable schemes and other settings that

### It's hard not to compare *P3P*'s demon recipes to its modern successors

consistently played nice with my setup. On my desktop, playing full-screen at 3840x2160, 120 FPS, with the rest of *Persona 3 Portable*'s settings cranked up to high didn't cause any issues.

For the most part, *Portable* looks great, but some environments and models fared better than others in the remaster treatment. Backgrounds with more lighting effects suffer the most, adding messy layers of grain to the art. It's nothing catastrophic, and the upscaled makeover remains a significant improvement.

### THE END WILL COME

It's a relief to revisit *Persona 3 Portable* through its PC port and realize my fascination with the world isn't just childhood sentiment. A keen sense of sadness and dread sets in the further you go. The otherworldly discontent bleeds through everywhere in the best ways, whether in the tick of the Dark Hour or in the passing conversations with restless classmates. *Portable* may not be at the top of its class for its old systems and dungeon crawling, but its cast and tone easily compensate for some of its shortcomings. Forgive *Persona 3* for a little monotony, and it'll deliver on the horrors of inevitability steeped in a style distinctly different from the games that followed. ■

PC GAMER

VERDICT

A PSP classic with systems that show age, but *P3P*'s retelling remains a series best for its stylishly eerie world.

80



**TOP:** There was an animated cutscene here. It's gone now.



The Evoker is a constantly unsettling reminder of *P3P*'s stakes.



# DON'T SPEAK

**FORSPOKEN** could have been excellent if it tried a little harder

By Mollie Taylor

**O**n paper, *Forspoken* is a videogame that should have resonated with me. It's a Luminous Productions/Square Enix venture, a developer I remain deathly loyal to despite its poor track record in more recent years. You see, *Forspoken* features some of my favorite things in life: nail art, cats, parkour and badass matriarchal rulers.

Yet, *Forspoken* is let down by its sheer unwillingness to break the mold. In many ways, it's the exact type of game you've seen countless times across the last 15 years. An open world RPG with superpowers, mystical creatures, and a terrifying world-ending threat. It does play into some isekai tropes, with protagonist Frey Holland whisked away from her New York home and plunked into a fantastical world. Along with her talking bracelet companion Cuff, she navigates the world of Athia and the Break which threatens to consume the land and everyone in it.

## A-FREY'D TO EVOLVE

It's a pedestrian premise, one that never goes anywhere particularly exciting. Its twists and turns feel predictable. Game stories don't necessarily have to have *BioShock* or

*Nier: Automata* levels of clever plot twists, but *Forspoken* too often fails to have fun with its premise. For what it's worth, though, I enjoyed the latter half of the narrative. The beginning of the game is mired by some rather choice story beats, like making Frey a petty criminal who squats in an abandoned apartment and has some troubling run-ins with a local gang. Once it stops focusing so heavily on who New

York Frey is and puts more emphasis on Athia Frey, it becomes a much more enjoyable story.

Despite a cringeworthy trailer that showcased some toe-curling dialog, *Forspoken* isn't really filled with many moments that made me recoil in embarrassment. The dialog from the infamous trailer—which came from an early cutscene—is by far the worst offender. Everything

## Combat and movement are the best things about this game

else was fairly standard, though that may be my long-developed immunity to Square Enix dialog a la *Kingdom Hearts* and *Final Fantasy*.

It's made better by the fact that I really enjoyed Frey as a character. As a woman who also has some potty mouth tendencies and struggled to fit in as a young adult, I found her wonderfully relatable. Sure she says 'fuck' way too much, but so do I! She's one of the more relatable heroes I've played in games recently, and I really wish she'd been in a game that did her more justice. I also thoroughly enjoyed the rapport between her and Cuff, even if the frequency of their back-and-forth is a lot. Mercifully, it can be tweaked in the settings or turned off entirely.

The most fun I had in *Forspoken* was when I ignored the story and explored Athia instead. Combat and movement is the best thing about this game, with Frey able to parkour at lightning speed around the world and fling spells of different elements at enemies. Dashing across the map, flipping up cliffs and zipping around feels really good. But bring things a little more close quarters and it becomes finicky, with Frey regularly bouncing off walls and short platforms.

I'm left to sit there waiting for her to calm down and come back down to Earth, which really broke my flow at times. Parkour is also bound to left Ctrl by default, which is a horribly inconvenient location for a button that's used for both traversing the world and dancing around enemies. I ended up rebinding it around 15 hours in, my poor wrist buckling under the constant twisting.

*Forspoken*'s magic covers the four basic elements—earth, fire, water and air—with support and damage-based spells at Frey's fingertips. I had a great time sidestepping or flipping over enemies, shooting a huge spiky boulder into their back or lifting them up into a bubble which, when shot, caused a huge area attack to any

## NEED TO KNOW

**WHAT IS IT?**  
An open-world RPG steeped in isekai tropes

**EXPECT TO PAY**  
\$70

**DEVELOPER**  
Luminous Productions

**PUBLISHER**  
Square Enix

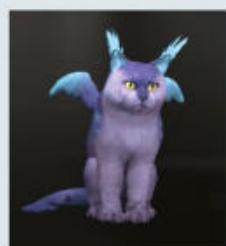
**REVIEWED ON**  
AMD Ryzen 7 2700X,  
16GB RAM,  
GeForce RTX3070

**MULTIPLAYER**  
No

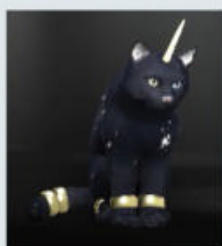
**LINK**  
[forspoken.square-enix-games.com](https://forspoken.square-enix-games.com)

## FELINE FINE

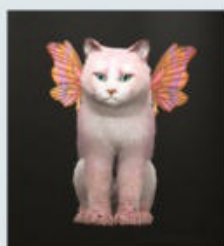
*Forspoken is a cat lover's heaven. Here are my faves*



**CLERE**  
Clere looks so chill. Not a thought behind his eyes. He's just a li'l guy who loves sleep, cuddles and being fed.



**ARAMAK**  
Aramak appeals to my cold, goth heart. If I could own a slightly strange, fantasy cat, it would be this one.



**KALPANA**  
Kalpana may well be the prettiest cat in all of Athia. If she was human, she'd be the popular blonde girl who always had gum.



**LEITE**  
I can't explain this, but Leite reminds me of a smart, kind but slightly frazzled old man. The kind of cat with amazing stories.





The Tantas are Athia's former matriarchal rulers. Tanta Silas possesses the power of fire.



**FAR LEFT:** *Forspoken* has some comically large apples. I reckon half of that a day would keep the doctor away.



**LEFT:** Combat is graded based on performance. Damage taken decreases score, while evasion increases it.



Hydration is important, especially for battering foes weak to water.



# REVIEW

## Forspoken



Frey is a fine protagonist, one that would've thrived in a better game.



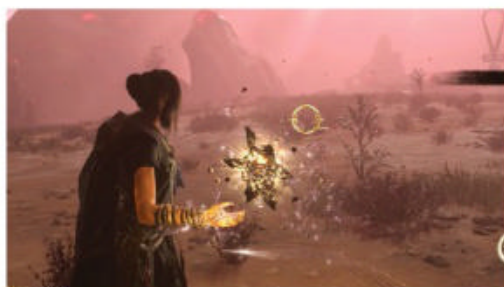
**RIGHT:** G... good doggies. Nice doggies.



**FAR RIGHT:** Thanks, Frey, for third-wheeling a touching family reunion.



**BELOW:** The Break has turned many of Athia's inhabitants into zombies. Poor fellas.





» of their buddies unlucky enough to be nearby. I would've loved to see the elements play together and react with each other more, but the most frustrating thing of all is that you don't get your hands on the full toolkit until the very end of the game.

Now, I can hardly fault a game for failing to come into its own until the very end—I'm a regular defender of *Final Fantasy XIV*'s slow start and I've tallied up a number of JRPGs in my lifetime. But *Forspoken* could have been so much better if it took where you end up 25 hours into the game and fed it to you 15 hours sooner. You don't get your final set of spells until right before the final boss, which feels like a huge oversight to me. The way your moves are fed to you makes sense within the narrative, but it feels horrible for keeping the game engaging across its entire run.

## NAILED IT

Enemies are interesting enough, with some being weak to certain types or magic or susceptible to status ailments. When they're not dotted around the world, they're plonked inside very bland repeatable dungeons or fortresses scattered around the map in a Ubisoft-style range of objective-based pit stops. These at least offer rewards in the form of cloaks, necklaces and different nail art, which Frey can equip to bolster her health, magic and defense. But the dungeons are all samey, rarely offering up much challenge. Hop into an instanced area, run down a corridor to a room of enemies and batter them. Rinse and repeat. Fortresses are much the same, simply taking place in the overworld instead.

Mutants were my favorite bits of combat in *Forspoken*—giant, ultra-strong beasts dotted around the overworld. They're the toughest foes I faced throughout my playthrough, but I also found them a great way to get in the habit of memorizing patterns and honing my evade timing. At least, when I could even figure out what was going on between the stutters.

I had an absolute mission trying to get *Forspoken* to run well on my PC, resulting in severe frame drops every

time I entered combat. I don't have a terrible rig by any means, my biggest shortcoming being the lack of RAM versus the game's bizarre system requirements. It plonked me on Standard graphic settings by default, but I could barely pull anything above 12fps during combat or while in the main capital city.

## I had an absolute mission trying to get it to run well on my PC

In fact, a significant early portion of my 32-hour playthrough was spent tirelessly tinkering with the settings. *Forspoken*'s PC port is horrifically optimized, and it felt like nothing I did was making it run any

better. There are some pretty severe texture rendering issues, made even worse when attempting to play in my usual 1440p.

Stones blinked in and out of existence, and doors warped behind characters as they spoke. I was regularly working with sub-20fps and stutters that made me feel nauseous at the beginning of my playthrough. It really squandered my early hours with the game, especially when combat was so heavily affected. In the end, I had to give up on making *Forspoken* look nice and go all-in on making it play nice. If my screenshots here look like ass, that's why.

## EASILY FREY'D

### What if enemies could analyse Frey?

#### 1 POTTY MOUTH

Resistant to foul language and curse words. Any attempts to swear at Frey will be reflected back. Shit!

#### 2 CAT'S PYJAMAS

Weak to feline friends. Putting one in her line of sight will cause her to be distracted and chase after it.

#### 3 FRESH CREPS

Susceptible to stylish sneakers that will inevitably be displayed on a shelf instead of worn like a normal person.

#### 4 KILLER KINDNESS

Resistant to friendliness. Convinced kindness is transactional and will remain hesitant.

#### 5 KING'S ENGLISH

The best way to tackle Frey is to be an incessant, unremovable sentient British bracelet that berates her.



## MONUMENTAL TASK

*Forspoken* could have been so much more. I wish Luminous Productions had taken notes from its other game, *Final Fantasy XV*, and created fewer but more elaborate dungeons for me to explore. Instead, too much of the gameplay feels like a generic objective collectathon. If I wasn't getting distracted by grabbing new gear between point a and point b of my story objective, I was making a quick detour to grab a stat increase at a monument or quickly exploring a derelict building, wiping out its enemies and gaining a new nugget of lore for my archive. Occasionally if I went really out of my way, I could find a handful of spells that were locked behind specific objective markers around the map.

The biggest mistake I made during my time with *Forspoken* was doing so much of my exploration early on. If you're going to play it—and it's a game I do think is worth picking up on sale... and also potentially on console depending on your rig—blitz through the story. The true enjoyment comes once you're in the post game, with Frey's full kit at your disposal. When I spent several hours flinging around my one or two spells, I lamented how painfully basic its combat was. Had I been handed more elements earlier on, or simply ignored side tasks in favor of getting access to those, I think my time with *Forspoken* would've been more enjoyable.

It's a game most fun when you're not following its orders. Free of sudden stops for a fade-to-black cutscene, or the game randomly rooting you in place while you initiate dialog that could have easily happened while on the move. Once the shackles of its limp narrative came off, I finally felt like I was playing the game *Forspoken* was trying to be. Please don't get me wrong, freedom can't cover up vapid gameplay objectives. But hey, it certainly does help.

A game shouldn't have to end to feel like it's just starting. Unfortunately for *Forspoken*, that's exactly what happens. ■

PC GAMER

VERDICT

*Forspoken* has sparks of greatness, but douses itself in fear of ever being anything other than an upsettingly safe RPG.

65



# THE UNIVERSITY OF UTAH



The University of Utah's Entertainment Arts & Engineering Program offers both a bachelor's and a master's degree in Video Game Development and we work with the U's School of Computing to offer an EAE Emphasis in the Bachelor of Science in Computer Science. These degrees allows students to choose a distinct area of focus from Engineering, Art, **Production, and Technical art as they navigate the program,** which provides them with increased skill sets as they enter the game industry.

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# EXTRA+LIFE

## CONTINUED ADVENTURES IN GAMING



## “I was itching to take the fun we’ve been having at the arcade”

Falling back in love with rhythm games like **DJMAX RESPECT V**

**M**usic is pretty cool. Do you know what’s even cooler? Music where you also jam your fingers into a bunch of keys to the beat. I’ve always loved rhythm games, but my desire to play them over the years has waned. I even bought *DJMax Respect V* two years ago, played for an hour and wondered if maybe I just wasn’t much of a rhythm gamer anymore.

That’s until recently, when I’ve been hitting the arcade a whole bunch with a good pal of mine. He’s one of those incredibly annoying friends who is cracked at everything he tries, yet so humble about it you can’t hate him for it. We’ve been grinding out the likes of *StepMania X*, and I was itching to take the fun we’ve been having at the arcade and bring it home.

### MOLLIE TAYLOR



**THIS MONTH**  
Ruined a manicure by bashing my nails into my keyboard.

**ALSO PLAYED**  
*Guild Wars 2*, *Stranger of Paradise*

*DJMax* proved to be the perfect game for that. I’d begrudgingly redownloaded it as an option for us to play together over Discord. Despite my reservations about returning, it has an undeniably great multiplayer lobby function, and everyone knows games are more fun with friends. As I dove in for a few songs with him, I lamented the 55GB of space that I’d just given up for a game I didn’t even like all that much.

There’s one thing I hate more than anything in this world: being wrong about something. Granted, it

**TOP:** I’m officially an El Clear and El Fail simp.

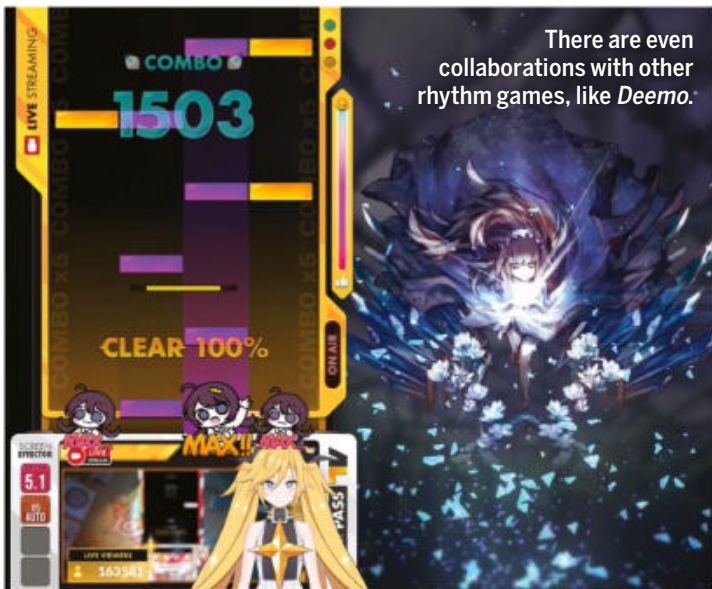
happens more often than I’d care to admit. Turns out, I was wrong about *DJMax* too. Hot damn, it’s easily one of the best—and prettiest—rhythm games I’ve played in a hot sec.

### LET’S GROOVE

I’d massively under-appreciated *DJMax*’s song library when I originally bought the game, playing *League of Legends*’ POP/STARS over and over and wondering why I was getting bored. The *V Extension 3* DLC in particular has massively improved my experience with the game. Certified K-Pop anthem Tic! Tac! Toe! would be played

### THE V EXTENSION 3 DLC IN PARTICULAR HAS MASSIVELY IMPROVED MY EXPERIENCE





There are even collaborations with other rhythm games, like *Deemo*.

everywhere if it was sung by the likes of Blackpink or Twice. KICK IT has one of the best music videos I've seen, following the story of a red cube that decides to square up to the goddamn Earth.

There's even lore. Lore! In a rhythm game! There are the origins and existence of *DJMax* waifus El Clear and El Fail, told through music videos like *Boom!* and *Black Cat*. My favorite has to be the NB Rangers, a sentai group dedicated to eradicating any form of love or affection.

There's something about being able to jump in a lobby with a group of your pals, flick through hundreds of songs and all play together at your own comfort level. I'm still stuck on pesky four-button note charts, occasionally glancing over in awe as my friends dance over eight-button charts. It's a nice blend of everyone trying to beat their personal bests with a dash of rivalry thrown in.

Above all, games like *DJMax* are going a long way to revive my love for a genre I've played since I can remember. I'm pretty sure my soft dance pads of old are in my loft, and I still have an ancient laptop hard drive filled with gigabytes worth of *Stepmania* songs. Looks like I'm still a rhythm gamer after all. ■



I'm not shrieking hysterically right now, you are.

## “I’m going to need a change of trousers”

Out-mimicking mimics in **PREY**

▶ ROBERT JONES



**THIS MONTH**  
Transformed into a cup,  
rolled under a table.

**ALSO PLAYED**  
*Pentiment*,  
*Prodeus*

**I**'m hunted by a Nightmare, *Prey*'s biggest and most deadly foe, and I'm honest enough to admit that I'm shortly going to need a change of trousers.

This hulking, tentacled, Lovecraftian shadow monstrosity is a walking bringer of death. It's equipped with a smorgasbord of deadly attacks and powers, it's physically massive and, quite naturally, its harrowing scream induces fear into all who hear it.

I'm low on ammo, too, and I know from past experience that my usually trusty GLOO cannon, which allows me to immobilize basically all other Typhon foes on the Talos 1 space station, is no good here—it would be like trying to glue-up a Balrog.

No, my only chance is to hide, and bloody fast, too! So I channel my inner Rincewind and leg it lickety-split. Problem is, the Nightmare has incredible awareness and no matter where I run to it follows.

Maybe I channel Unseen

University's poorest student a little too much, though, as I stupidly flee into a bit of a dead end. There's a security booth, sure, one that I could take cover and hide in, but as I desperately run up to its door I learn it's locked and my hacking skill isn't good enough to break it.

### THIS IS NOT A CUP

The Nightmare hasn't got line of sight to me at this moment, but it will soon, so I need to stay out of sight somehow. I may be out of ammo, true, and I may have soiled pants, sure, but there's one thing the Nightmare isn't expecting—I have the ability to not just flee, but flee while mimicking a household object.

Noticing the security booth has small portholes in its windows and that some now dead security guard has left his cup of joe on a nearby table, I quickly grab the cup, place it on the porthole ledge of the locked security booth, and then use my alien Neuromod ability to transform into an exact copy of the cup.

The Nightmare lumbers around the corner to the security booth just as a totally regular coffee cup rolls through the porthole of the security booth and then down and under its interior table. Time passes. The Nightmare gets bored and buggers off. And the deranged laughter of a totally regular coffee mug echoes throughout Talos 1. ■



# “A game that wants to be in conversation with Dark Souls”

**JEDI: FALLEN ORDER** gestures at what’s most compelling about Star Wars

**I** started *Jedi: Fallen Order* with *Andor* on my mind. Disney cursed every future Star Wars thing by releasing a television show as precise and transformative as *Andor* and *Jedi: Fallen Order* retroactively has to deal with it too. No other Star Wars media goes as hard as *Andor* does when it comes to its anti-imperialist roots. *Jedi: Fallen Order*’s first few hours aren’t as riveting as *Andor*, but I found its perspective compelling nonetheless.

Cal Kestis is a Jedi Padawan disguised as a scrapper, afraid of being caught by the Empire who is still working to eradicate every Force user in the universe. *Jedi: Fallen Order* takes place in the dark period where the world’s heroes lost, but its intro underlines how the drive to fight the Empire has always been there in the kind of people who don’t get stories told about them.

Things go wrong during the tutorial section and Cal’s buddy Prauf tumbles off the edge of a careening ship. You save him from the fall with the Force, but it leads to questioning

▶ TYLER COLP



**THIS MONTH**  
I died to an Oggdo and got up again.

**ALSO PLAYED**  
*Overwatch 2*, *A Space for the Unbound*

by the Empire. Before Cal can admit it was him, Prauf steps forward to take responsibility. In a speech that somewhat mirrors one at the end of *Andor*’s first season, he bravely denounces the Empire before the squad’s leader kills him. It’s a predictable moment, but I appreciate the way the game frames it as the most powerless person taking a stand and not the hero you’ll play as for the rest of the game.

## EVER ONWARD

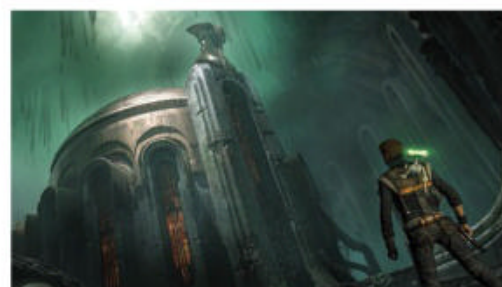
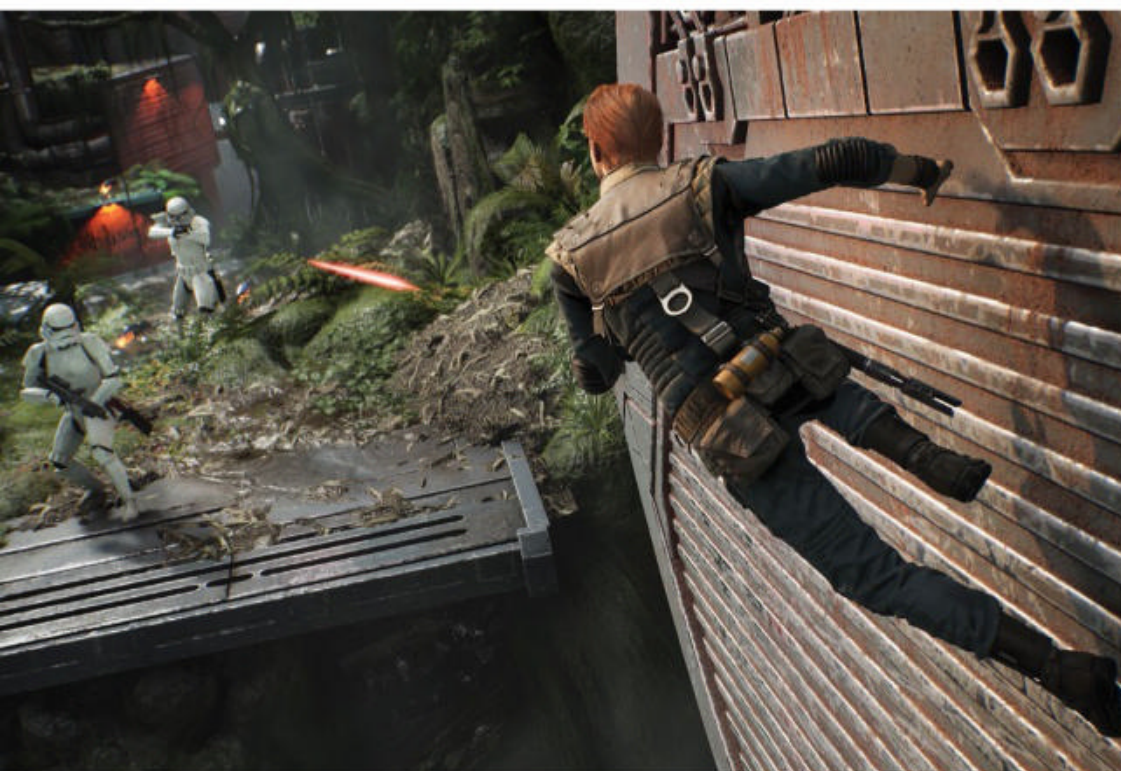
This contextualizes how Cal, in some ways, is still learning what being a

hero and a Jedi even means. He frequently has flashbacks to his mentor and is able to recall things about the Force that he’s long forgotten or could never apply before everything was lost. It positions Cal outside of the hero’s journey that Star Wars popularized because he should be extremely capable, but he’s either lost the ability or never finished learning how to be.

*Jedi: Fallen Order* presents itself as a game about doing your part and it demonstrates this by not having Cal be the hammer in a world of nails. Your lightsaber swings miss, they collide with armor and flesh, and every enemy bites back. Raw strength and dexterity, no matter how powerful your Force abilities are, won’t let you slide past the finish line. What’s forever been inherent in the kind of deliberate, almost turn-based melee combat in the *Souls* games is the idea that you’re always a few mistakes away from failure. And that fragility pushes you to keep trying no matter how hard the fight is.

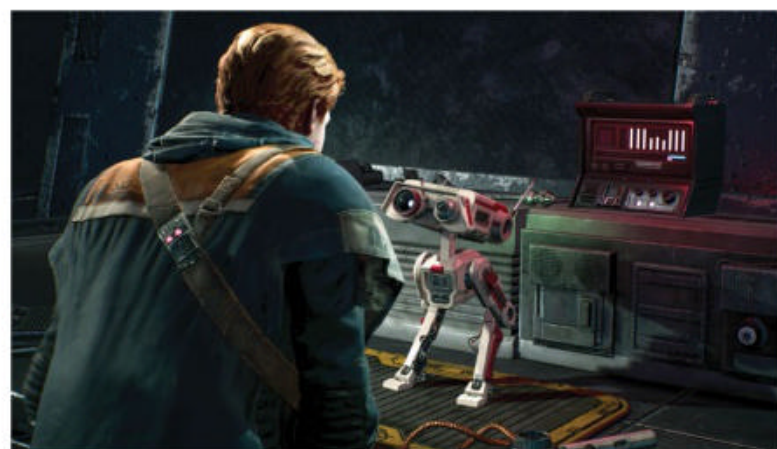
For a game that wants to be in conversation with *Dark Souls*, it’s an impressive start, and I’m ready to see where it goes. ■

## TAKES PLACE IN THE DARK PERIOD WHERE THE WORLD’S HEROES LOST



**FAR LEFT:** Respawn put wall running in this game and of course it rules.

**BELOW:** BD-1 helps ground Cal as a main character and has a great design.







# “The daily routine is easily forgotten when there are villagers to befriend”

How **STARDEW VALLEY** took over one family's existence

**M**y entire family is addicted to *Stardew Valley*, and it's all my fault. The tale begins with a familiar refrain from the lips of my daughter, who's six: “I'm boooooored.” And what better way to stave off boredom than videogames?

Naturally, she wasn't going near my PC—I sit at it all day and use it for everything from writing to games to photo editing, so a PlayStation 5 was acquired, along with a small selection of suitable games. Most were tried once and discarded, though *Peggle 2* made a bit of an impression, but *Stardew Valley* sank its hooks in deep.

It's not a game that you can play alone when you're six, however. The daily routine of watering and animal husbandry is easily forgotten when there are villagers to befriend, trees to fell and exciting trips to the mines on the agenda, so someone sits with her as she plays to remind her of all the boring bits.

And that's how my wife became addicted too. Now, she can sit for

## IAN EVENDEN



**THIS MONTH**  
Watched other people play  
*Stardew Valley*.

**ALSO PLAYED**  
*Midnight Suns*,  
*Portal RTX*

hours in front of the TV I bought with plans for playing the latest console games, or movie marathons long in to the evening, playing something that looks like it could have been managed on the SNES.

## MILKING IT

Maybe it's not that bad, and the game certainly isn't without its charms, but *Stardew Valley* has completely taken over my household. I created a character myself, but I've played it so little I'm not out of the first season of

## MY DAUGHTER MARRIED BLUE-HAIRED, PARROT-OWNING EMILY

the first year, though I am quite good at fishing. Instead, my role is to look things up on the game's wiki using my phone. Knowing villagers' favorite gifts is now my specialist subject.

They've both got married in the game, my wife to Elliot, a dreamy writer type a bit like me, but now she's bored with him and wants a divorce, which bodes well. My daughter married blue-haired, parrot-owning Emily, and seems happy with her choices in life.

## HOT TOPIC

Even when the game isn't being played, YouTube videos are being scrutinized for clues to secrets or ideas for farm layouts. The correct placement of the various types of sprinkler is a particularly hot topic of conversation at the moment.

And the contagion is spreading. Everywhere she goes, my daughter evangelizes for the game to anyone she spots with a console or PC, asking them excitedly if they have it. One day she'll find a fellow addict and explode. I haven't dared tell her about the mobile versions. ■



# LOST ARK

Witcher crossover offers Geralt selfies, not much else. *By Jody Macgregor*

**L**ike every MMO, *Lost Ark* wants to hook you with its endgame so you keep playing forever. You're not done when you hit level 50. That's just your character level. After that there's a gear level to grind up for hundreds more hours.

The grind's alleviated by a steady drip-feed of additions, the biggest of which add entire new continents with quests that extend the storyline, while between those are smaller events, often taking place on an island somewhere.

The latest is an odd choice: a crossover with *The Witcher*. While Geralt's cameoed in other games like *Soulcalibur VI* and *Monster Hunter World*, *The Witcher* is dark fantasy in the Elric tradition while *Lost Ark* is so light you need shades. In fact I have a pair, a set of pixelated '8-bit' sunglasses that are part of my extensive collection of ridiculous cosmetics alongside a pumpkin head, dinosaur costume and bright pink helmet shaped like a local triceratops creature. Even when *Lost Ark* aims for dramatic, it's undercut because it

## NEED TO KNOW

**RELEASE**  
Feb 11, 2022

**DEVELOPER**  
Smilegate

**PUBLISHER**  
Amazon Games

**LINK**  
[playlostark.com](https://playlostark.com)

cuts back to me and I look like a mouse dressed as a naval officer.

The crossover plays with this tonal clash. Geralt, Ciri, Yennefer, Triss, and Dandelion (all voiced by their regular actors) pop out of a portal on the island of White Wolf Haven just as a festival is setting up. Geralt is suspicious of the magic that's transported them here, and can't help suspecting bad things are about to happen. He's in the wrong genre though, and the resolutions of these five quests are entirely pleasant.

## MILD HUNT

Though they take just minutes, you can only do one quest per day. It's an artificial way of slowing your roll that stops you zooming through the whole thing and noticing how slight it is. The first quest does let you be Geralt while he uses his witcher senses to investigate a mystery as if he's on a sidequest in one of his own

games, but you don't get to fight or do anything more than press Q to follow a trail.

Compared to what follows, that's substantial. Calling them fetch quests would be an insult. I walked between characters, clicked through dialog, and it was over.

There's no resolution to the mystery of how these characters were abducted either. All you get is a lame "it's about the friends we made along the way" platitude before they're off home. Even Ciri's mention that she visited Arkesia once before on a previous crossworld jaunt amounts to nothing.

Other events have come with minigames like kart racing, a

## THE CROSSOVER PLAYS WITH THIS TONAL CLASH

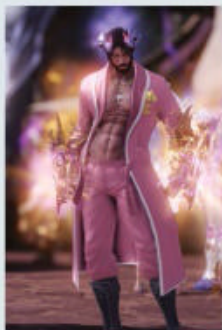
water-pistol shootout, and a boss fight against a giant chicken, but there's none of that here. There's not even a chance to play Gwent. It's an underwhelming experience where the highlight is taking selfies with the more stoic cast of a serious game.

Several selfie stickers come as rewards for these quests. I also earned a pile of witcher-themed potions that will expire before I ever get a chance to use them, a new title, some emoticons, and cards of the characters I met, plus I scored a Mokoko skin with scar and witcher medallion for having Twitch open in another tab while *Lost Ark* streamers played. (Does anyone who collects Twitch drops actually watch the streams, or are we all just inflating viewer numbers for free loot?)

The skins that make you look like Geralt or Ciri are only available in the real-money store, or the auction house. They're the real point of this collaboration, I suspect, as *Lost Ark* fans who are also hardcore *Witcher* fans will doubtless pony up for the weapon skins and Ciri's hairstyle.

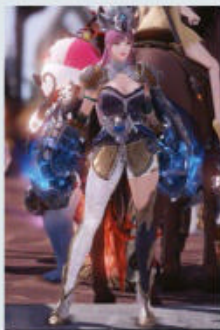
The real endgame of *Lost Ark* isn't honing items to raise your gear level. It's fashion, whether you're buying dyes to personalize your outfit, forking out for bikinis, trying to make yourself look like a character from another game, or ruining every cutscene by wearing a mint-green dinosaur costume. ■

## LOOK BOOK *Styles of Lost Ark*



### DRESSING GOWN

The magenta dressing gown really brings out the colour in your abs. Though that draws the eye, don't ignore the boots that let everyone know you're ready for bed, or piracy on the high seas.



### LEGGINGS

Who said leggings need to cover both legs? Just because the word's plural doesn't mean your hose should be. Feeling draughty on the left thigh is a small price to pay for looking this iconic.



### PUMPKIN

With this vomit-orange romper, pumpkin mask, and witch hat combo you'll be ready for midnight screenings of *The Nightmare Before Christmas* all year round.



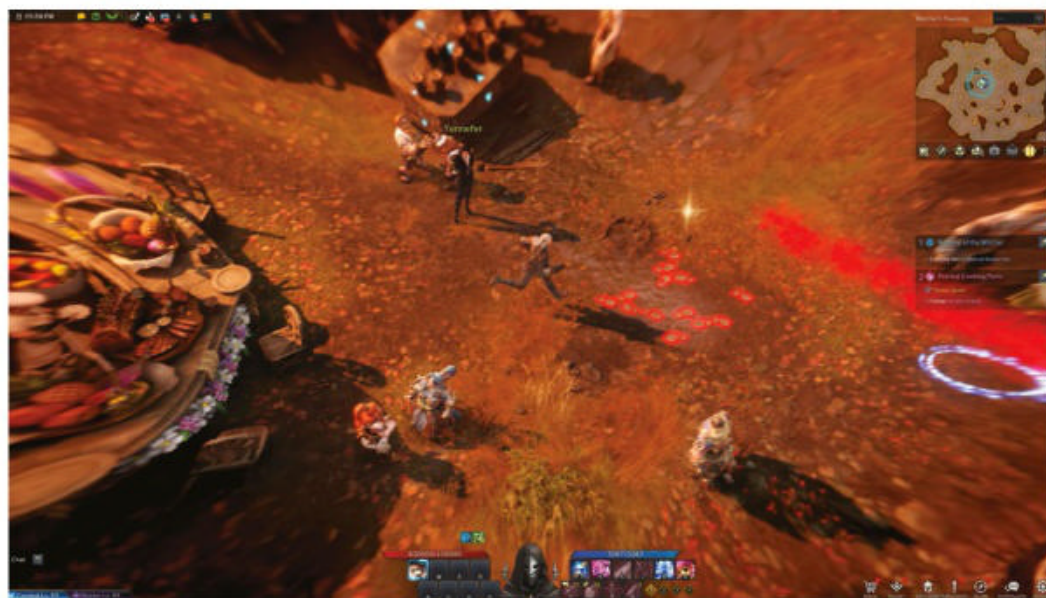
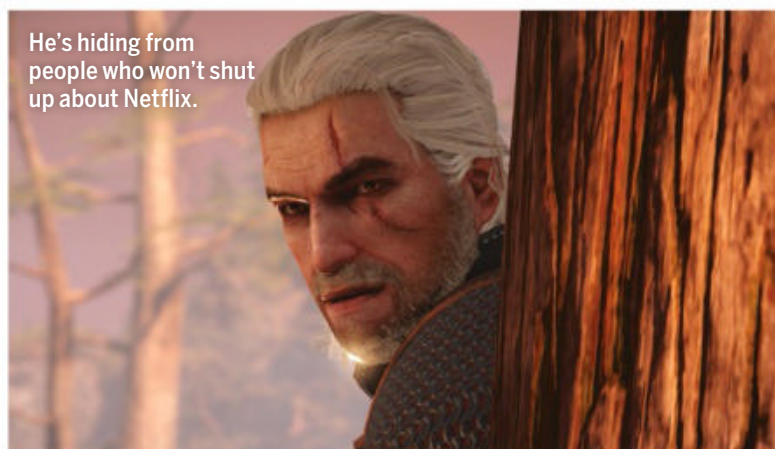
### PANTS

Forget all the bother of remembering clothes and simply wander out of the house in underpants. Don't forget accessories, as with that low an armor class you'll need a magic staff.





He's hiding from people who won't shut up about Netflix.



**FAR LEFT:** A decent approximation of *The Witcher 3*'s more boring sidequests, to be fair.

**LEFT:** Whether Geralt's with Yennefer or Triss is, pleasingly, diplomatically avoided. Huzzah!



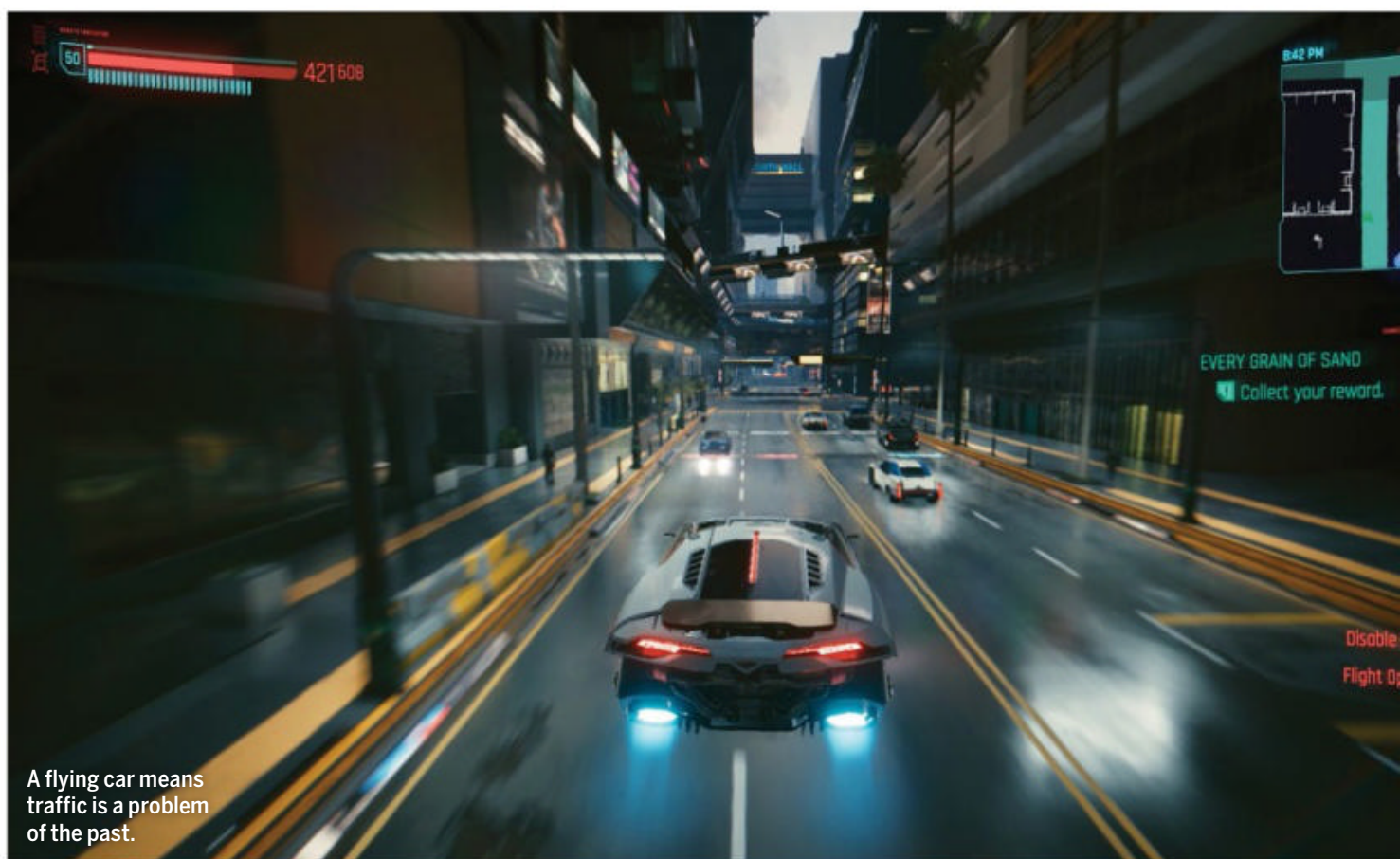
Somebody forgot this character was recast as a woman of colour in the localization, oops.



Vehicle combat gets a big overhaul.



**ABOVE:** Limit V to subtitles, making him an old-school silent protagonist.



A flying car means traffic is a problem of the past.





# CYBERPUNK 2077

Mod the future. *By Noah Smith & Christopher Livingston*

**C**yberpunk 2077 has undergone some serious changes and improvements over the past 18 months, with lots of bug fixes and the addition of long-requested features like transmog coming to the first-person RPG. Providing another big boost to the playerbase is the Netflix anime series that's gotten people back in the mood to either revisit Night City or to try the game for the very first time.

And modders have been busy, too. There are now troves of mods to download and install, featuring everything from flying cars to improved motorcycles to overhauls of combat and the police force. Below, you'll find our picks for the best mods for *Cyberpunk 2077* as of early 2023.

## GANG RELATED

Let's start with your enemies. Are Night City's gangs feeling a bit too copy-and-paste? Try rmk1234's identity-based overhaul called *Lifepath Bonuses and Gang-Corp Traits*, a top-to-bottom NPC rebalance that gives the factions of Night City buffs and debuffs, including custom firewalls that affect how you'll approach combat.

Everyone from the Tyger Claws to Militech gets their own unique faction bonuses with this mod—the Maelstrom gang, for example, is now completely immune to covert hacks, burning and bleeding, in addition to significant resistance to headshots and assault weapons. This mod is a standout in a series of fantastic gameplay and balance mods by rmk1234, and I found that pairing this with their other mods, especially *Toxicity*, *Level Scaling and Balance*, and *AI Netrunners Enhanced*, gave me the thoughtful, tactical combat I found missing from the base game.

## NEED TO KNOW

<b>RELEASE</b> December 9, 2020	<b>DEVELOPER</b> CD Projekt Red
<b>PUBLISHER</b> In-house	<b>LINK</b> <a href="https://www.cyberpunk.net">cyberpunk.net</a>

With gangs done, let's fix up our character of V. In my experience, *Cyberpunk*'s progression is often undermined by a resource economy that tosses mountains of equipment, consumables, and experience at you, all very slightly better than what you already have. I recommend enforcing a spending cap on the garbage

## ARE NIGHT CITY'S GANGS FEELING A BIT TOO COPY-AND-PASTE?

economy with Captain12's mod, called *Auto Scaling Weapons and Armor*. It'll cut way down on the time you spend in weapon store menus and let you save your eddies for the legendary gear that's really worth your while. If you're into the idea of having *Cyberpunk 2077* play out a bit more like the tabletop game, I recommend also trying RMK's *Level Scaling with Higher Minimum Levels*. Combined, these mods ensure that a good gun will always be good, and keeps your character from steamrolling through early game content you may have missed.

## SILENT RUNNING

The appeal of this next mod will probably rely on how you feel about videogame protagonists in general. Some players love a hero that talks, while others (often the people raised on games like *Half-Life*, *Doom*, or *The Legend of Zelda*) prefer the completely silent protagonist.

## OTHERPUNK

*Other games to get your cyberpunk fix*



### CLOUDPUNK

*Cyberpunk* doesn't just mean clawing people with arm-blades. You can just deliver packages.



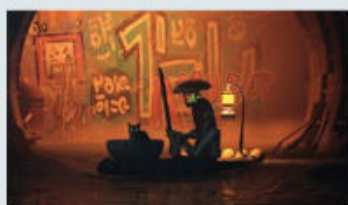
### UMURANGI GENERATION

A stylish adventure with a bold, important anti-colonial message, and it's a hell of a photo game.



### CITIZEN SLEEPER

You're a worker in a corporate hellscape, with bounty hunters and AI nipping at your heels.



### STRAY

I checked the rules, and there's nothing that says you can't be a cat in a cyberpunk game. Meow.



Personally, I love the way V talks. Unfortunately, the far-off world of 2077 rarely challenges perceptions of gender and identity beyond the game's main quest, reinforced by a rigid gender binary that makes roleplaying a non-binary character an uphill immersion battle. Thankfully, V's booming gendered monologues can now be completely silenced with dirtythekid's quick and easy *Silent Protagonist* mods. No matter what version of V you're playing, you can limit their dialog to subtitles only, resulting in a more traditional, old-school RPG experience.

Need a rest? Me too. My V has been awake for weeks on end, hustling and grinding Night City's seediest underbellies in the hopes of affording a car that doesn't handle like a wet soap bar. Well, modder CrazySD has intervened, nefariously incentivizing semi-frequent sleep and grooming by tying them to your EXP gain and health regen rate. It's a simple mod called *Better Housing Buffs*, but the little things go a long way, and it soon becomes second nature to drive home and catch some shut-eye after a big quest or dramatic story beat. Grabbing a shower refreshes your regeneration rate more, sleeping in your bed further increases your experience gain, and a coffee beefs up max stamina more than in the vanilla game.

## POLICE ACTION

There's been a lot of work done by the modding community towards addressing the deficiencies of *Cyberpunk 2077*'s police system, and out of them all, my favorite has been modder Scissors123454321's police system rework contained within their *Vehicle Combat* overhaul. No longer does Night City's omnipresent police force immediately protect and serve you upon the slightest infraction. Crimes require witnesses, and witnesses have to make calls to the cops. Further, Night City's gangs and corps aren't embarrassed to call in their friends, too.

But a more realistic police response doesn't mean it's a free-for-all in Night City. Stealthy players will be challenged to find ways to drop their targets without anyone being the wiser, and heavy-handed types will have to keep to a tight schedule to escape unharmed. That's because the cops in the mod are psycho to the core—they'll do anything to drop you

at two stars or higher. Thankfully, the ability to shoot back from the safety of the driver's seat levels the playing field. It's a little janky, and don't be shocked when something inevitably breaks, but pulling off a gig that went loud and wiping out cars full of cops, corpos and gangers from your driver's side window mid-drift is an iconic trailer moment finally realized.

There's another police-related mod to deal with another issue in 2077. CD Projekt has said it's planning a big police overhaul in the future, to finally make the cops a bit more realistic when they show up to fight crime. Currently, it's a bit unsatisfying: they just teleport to your location. That feels like cheating. The *Enhanced Police* mod by mandruis7 makes the arrival of cops more reasonable. With a one-star warrant level, cops will arrive on foot, but at higher levels they'll show up on bikes and in police cars and actually pursue you.

## FRIENDLY SKIES

We all know the future promised us flying cars, and there actually are some airborne vehicles in a few scenes in *Cyberpunk 2077*. But when you're playing the game itself, the only cars you can drive remain firmly on the ground. That doesn't seem fair, does it? Luckily, modder jackhumbert had the same thought and you can finally take your ride to the skies with

the *Let There Be Flight* mod. The mod includes several different control schemes, plus custom sounds and visual effects. At last, Night City really does feel like the future.

You're not just hopping into a car and lurching into the air like you're using a noclip cheat mode, either. The mod adds custom thruster models with a nice glow to the



## WE ALL KNOW THE FUTURE PROMISED US FLYING CARS

undercarriage of the cars. There are custom sound effects, too, a lovely thrumming and humming noise when you lift off. Throw in the ability to pull off some barrel rolls, and I can't think of a better way to get around Night City.

Speaking of vehicles, there are some sweet motorcycles in *Cyberpunk 2077* but they've never really felt all that great to drive. The *Bike Overhaul* mod by Suprt132 addresses a lot of the issues with bikes, making them faster and better to operate. Now when you're speeding around the city, V will lean with the bike when making turns.

*Cyberpunk 2077* is a singleplayer game, but that doesn't mean you need to take on the world all by yourself. If you want to feel the possibilities of the future, the *Drone Companions* mod by Scissors123454321 lets you craft and customize some robotic buddies. And they're not just around to be your pals, they'll fight alongside you. The mod adds a new operating system called Techdeck, which lets you build androids, drones and mechs. Each can be upgraded and customized, and they'll help you take down any enemies you target.

Finally, there's no question that your cyberarms are cool, but are they cool enough? The *Arasaka Cyberarms* mod by Aanderz gives you a whole bunch of replacement skins for your arms, a library for you to choose from. Your arms can look like Iron Man, you can have glowing Mantis blades of several colors, and pick from lots of different decals. The world of *Cyberpunk* is all about style, so don't settle for arms that look like you bought them off the shelf. Customize them! ■

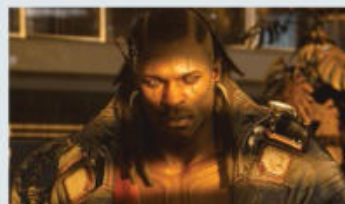
## MISSED CONNECTIONS

### The coolest Cyberpunk 2077 characters



#### DENNY

Denny is a drummer and is probably the coolest single character in the game.



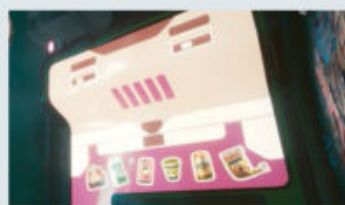
#### PLACIDE

We call him the 'anti-RPG character' because he treats you like a nobody.



#### CLAIRE

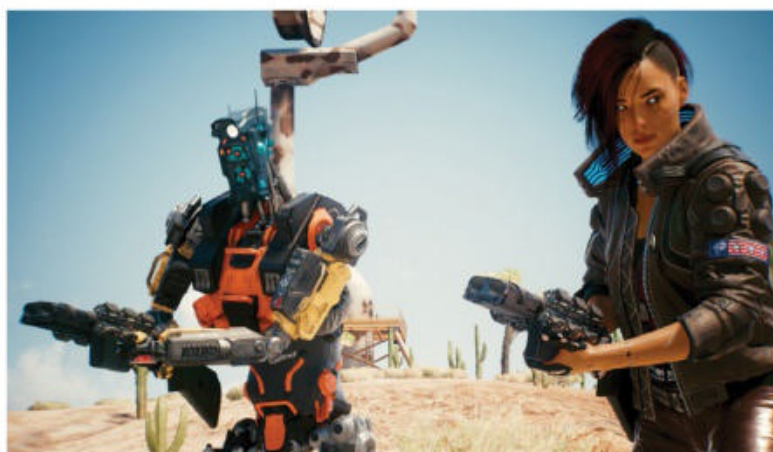
I thought Claire liked me, but she was just using me to further her goals. Respect.



#### BRENDAN

I know, he's a vending machine, but I'm mostly made of machinery, too.





**ABOVE:** Cops that actually chase you? I don't believe it.

**FAR LEFT:** Finally, some drones will be on your side.

**LEFT:** Better bikes, something we've wanted since day one.



Robotic buddies can not only ride with you, but fight for you.





# PLAY THE DEAD SPACE SECRET ENDING

Find these fragments in New Game+ *By Sean Martin*

## NEED TO KNOW

**DIFFICULTY**  
Normal

**TIME**  
17 hours

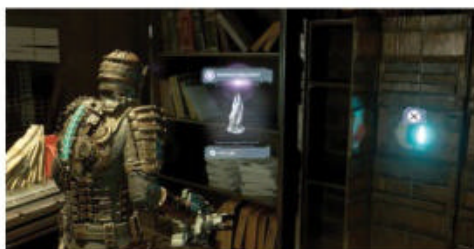
### VITAL LINKS

Where to get every gun in Dead Space:

[bit.ly/3DsaCBb](http://bit.ly/3DsaCBb)

Dead Space Crew Rig locations:

[bit.ly/3Y85jyX](http://bit.ly/3Y85jyX)



## TRAM CONTROL

**1** The first marker fragment is easy to get since it's next to where you have to collect the Data Board in Tram Control during chapter one. Look to the right of the workbench to spy the fragment on a bookcase, though you may have to shoot some books to access it.



## KYNE'S OFFICE

**2** The second fragment is located in a secret room in Dr Terence Kyne's office. You can find his office in the Research Wing of the Medical Deck during chapter two. Use kinesis and slide his bookcase aside to reveal the room with the fragment.



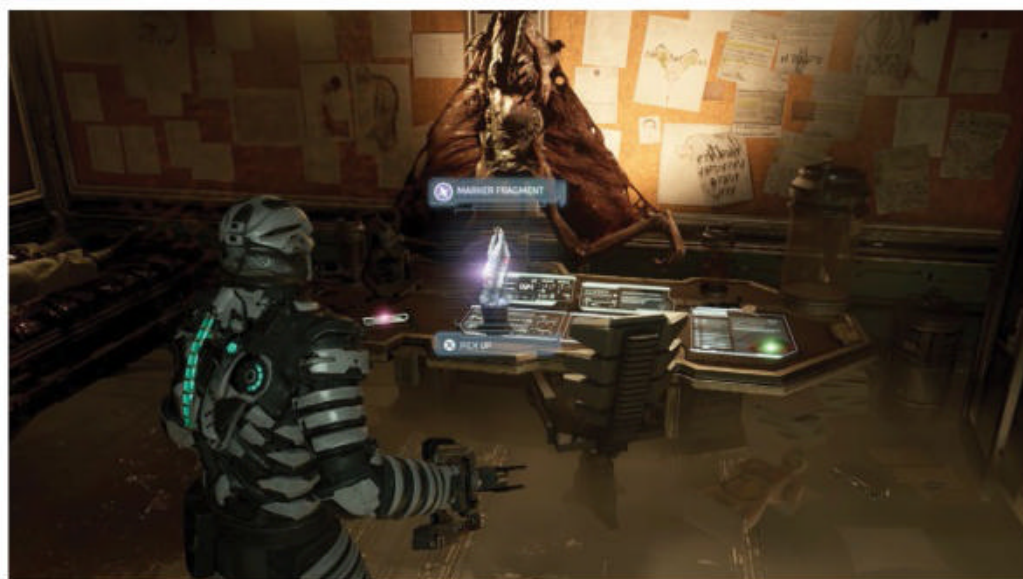
## ENGINE ROOM

**3** During chapter three you have to head to the Engine Room on the Engineering Deck to keep the Ishimura afloat. Head to the center of the room, turn left, and walk towards the workbench. To the right of this you'll see the fragment hidden in the shadows.



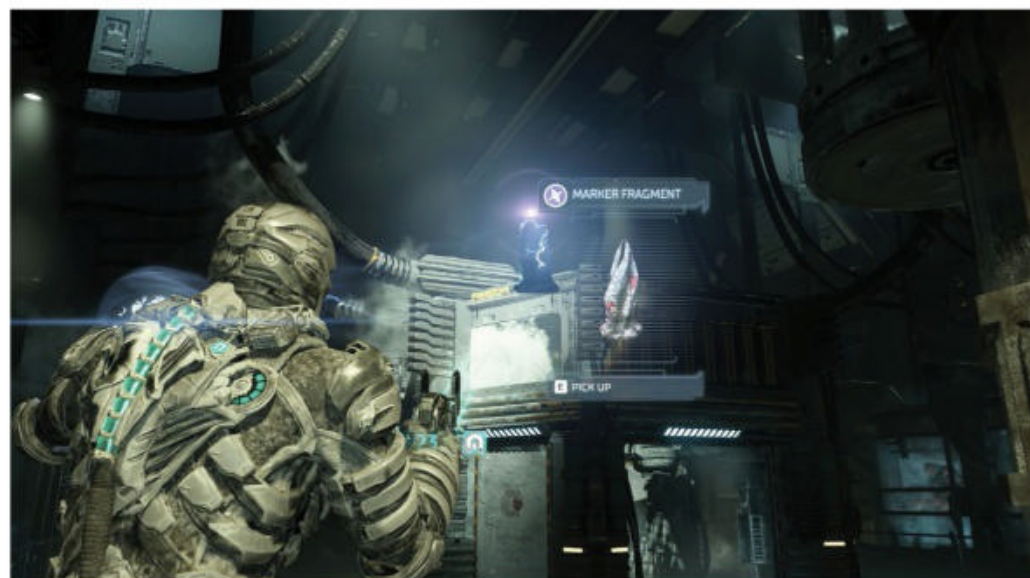
## ADMIN SYSTEMS

**4** In chapter four you have to reroute power to the ADS cannons from the Bridge Deck. Once you take the elevator to Admin Systems, look out for the Break Room on the right side of the corridor. Head inside to grab the fourth marker on the floor by the screen.



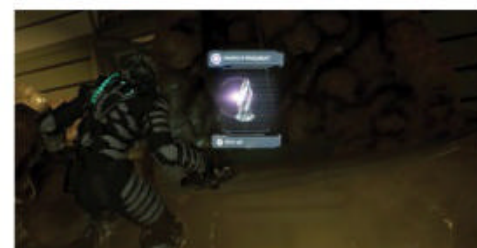
## MERCER'S OFFICE

**5** After Mercer sets his Hunter on you in chapter five, you have to head to his office to override the lockdown. Once inside, you'll find the fifth marker fragment on the table by a strung up Necromorph Infector specimen.



## CRYOGENICS

**6** In the final sequence of chapter five you'll have to fight the Hunter in Cryogenics. When you enter the room, walk around to the far side of the Cryo pod and look on top of it to see the fifth fragment. You can then use kinesis to get it down.

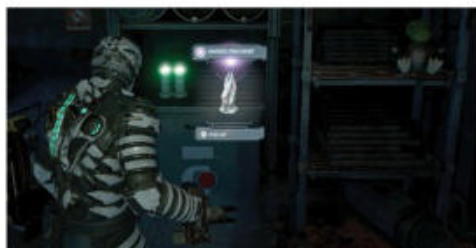


## HYDROPONICS

**7** The seventh fragment is in the East Grow Chamber of the Hydroponics Deck, where you go in chapter six to inject some Wheezers. If you turn off the gravity using the Circuit Breaker at ground level, you can find the marker floating in the top right corner of the room.

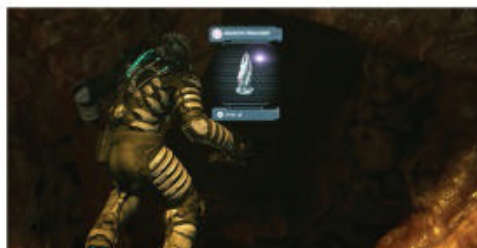


## ACTIVATE THE SECRET ENDING *Where to ferry those fragments*



### MINING

**8** After you grab Dallas' Rig on the Processing Level of the Mining Deck in chapter seven, head back through the big processing chamber and out the far end. You'll find a door with Security Clearance level three, and inside it, the eighth marker fragment.



### COMMS ARRAY

**9** The ninth fragment is located in the Comms Array itself, and you can grab it in chapter eight when you go to repair it. Look for the big Necromorph growth to the left of the communication control screen, and boost over to find the fragment floating inside.



### DELUXE QUARTERS

**10** In chapter ten you'll find yourself on level B of the Deluxe Quarters on the Crew Deck. When you find the Circuit Breaker, swap power to the doors, and head back down the corridor into the previous room. The two far doors are now unlocked with the tenth fragment inside.



### INQUIRY DESKS

**11** The eleventh fragment is located in the room where you meet Dr Terence Kyne in chapter ten. He'll unlock the door for you, and when you head inside, look straight ahead to see the fragment concealed by a bottle of wine on a desk.



### CARGO BAY

**12** The final marker fragment is in the Cargo Bay, but you have to head here in chapter 11 to move the marker. Take the elevator down, then stick to the left side of the walkway and follow it around to the far corner. You'll spot the marker on a shelf there.



# PREY BY PROXY

Surviving Talos 1 without  
(directly) killing any Typhon.

*By Rick Lane*





**A**s an immersive sim obsessive, *Prey* should rank highly among my favorite games. Yet when I first played Arkane's ode to *System Shock* back in 2017, I didn't fully get along with it. I admired much of what it did—the art-deco labyrinth of Talos 1, the freeform exploration, those exquisitely tricky Mimics playing the solar system's deadliest game of hide and seek.

Despite this, something didn't click. I've thought about it often in the years since (like I said, I'm an obsessive), and I've concluded the problem lies with *Prey*'s combat. I relied on shotguns and psychoshock too heavily in my first run, and combat perhaps isn't *Prey*'s greatest strength. Consequently, I've decided to try the game again, but with the added rule that I'm not allowed to kill any enemies in the game directly.

To be clear, I'm still allowed to eliminate any Typhon I encounter, but only through indirect methods. I'm not allowed to shoot them, blast them with psychokinetic powers, smash them with a wrench, or harm them in any way such that you could trace a straight line from my weapon to the alien corpse by my feet. As for what I can do, we'll find out as I go. It's been nearly six years since I last played *Prey*, and my memory of it is fuzzier than that of a TranStar employee after a Neuromod removal.

My plan is to play the game on normal difficulty, but with weapon degradation and 'traumas' (specific injuries that have negative effects) switched on. These were added after *Prey*'s original release, and I'm keen to try them out. I'm also playing as the female Morgan Yu, simply because I played as the male Morgan first time out. With that said, it's time to blast off to the Lunar orbital station Talos 1, where an army of amorphous aliens await my arrival.

## THE RULES

1. Play *Prey* with indirect kills only.
2. Traumas and weapon degradation on.
3. No reloading except upon death.

## NEURO-ADVERSITY

After an introduction I'm not going to spoil, because it's awesome and everyone should experience it themselves, Morgan Yu finds herself in the Neuromod division of Talos 1, where the station develops the brain implants that turn learned skills like piano playing or electrical engineering into a biological software update. As I thread through the division's austere laboratories into its

wood-paneled offices, I'm accosted by my first Mimic. These spider-like creatures can disguise themselves as everyday objects, before attacking you with inky tendrils.

All I have to hand is a wrench, which I can't use because that's the entire point of this playthrough. Instead, I dash toward the maintenance panel on the other side of the room. As I open the panel and clamber into the shaft, I spy an explosive canister nestled at the far end, and an idea strikes me. I pick up the canister and return to the hatchway. I drop the canister out of the hatch, and when it lands it explodes, scattering bits of Mimic across the office floor.

## I'M PASSING THE DIVISION'S SECURITY STATION WHEN ANOTHER MIMIC ATTACKS

Now, I'm not entirely convinced about the indirectness of this kill, as I threw the canister myself rather than detonating it remotely. Then again, I didn't know dropping the canister a few feet would detonate it, and experimentation is an important part of being a scientist. So let's call this precisely that, an experiment, and avoid throwing explosive canisters from now on.

Anyway, now the Mimic is gone, I can rifle through the office for supplies. Once I've rummaged through all the drawers, I return to the maintenance shaft and proceed forward. Heading toward the Neuromod Division's elevators, I pick up a new device, the GLOO gun. Described by the game itself as a 'million-dollar caulk gun', this handy tool fires expanding foam that can create ad-hoc platforms and nullify hazards like fires and shorting electrical devices. Most importantly, it can immobilize enemies without killing them, making it an essential not-weapon in my not-arsenal.

Ascending to the next floor, I'm passing the Division's security station when another Mimic attacks me. A quick splash with the GLOO gun freezes it in place, but the effect is only temporary, and as I'm reading through emails on the security terminal, the Mimic bursts from its

sticky prison and starts gnashing at my ankles. As I rush toward the door to escape, I notice the 'Manual Override' button beside the door. I push it and slip out before the panels slide shut, locking the Mimic inside. Now that's what I call security!

Before exiting Neuromods, I find some, well, Neuromods. These are skill upgrade points, the first of which I put into hacking, as I figure that's going to be a useful skill, and there's no point putting any points into combat. Then I leave Neuromods and head into the lobby, a vast, multi-floor hall that's home to several minor divisions, fronted by statues of gold, winged lions.

## HARDWARE UPGRADE

Sadly, I don't get much chance to take in the scene, as I'm ambushed by

Give em' the old one-two.





multiple Mimics. Instinctively, I GLOO them all up, but by the time I've coated the last one in gunge, the first has already broken free. Cue Yakety Sax as I'm chased around the lobby floor by a conga-line of Mimics, until I stagger toward the main elevator, where all the scuttling aliens are swiftly shredded by a stationary gun turret.

Finally! An actual weapon that I can 'use' without getting my hands dirty. I explore the rest of the ground floor, luring any Mimics I stumble upon back to the turret. Then I discover I can move turrets around, and use the autogun to clear the way up to my office on the third floor of the lobby. I have to redeploy the turret every time a cup or a bucket turns black and tries to eat my head, making progress fairly faltering, but it's preferable to Benny Hill-ing my way around the whole of Talos 1, and the turret keeps my own hands squeaky clean.

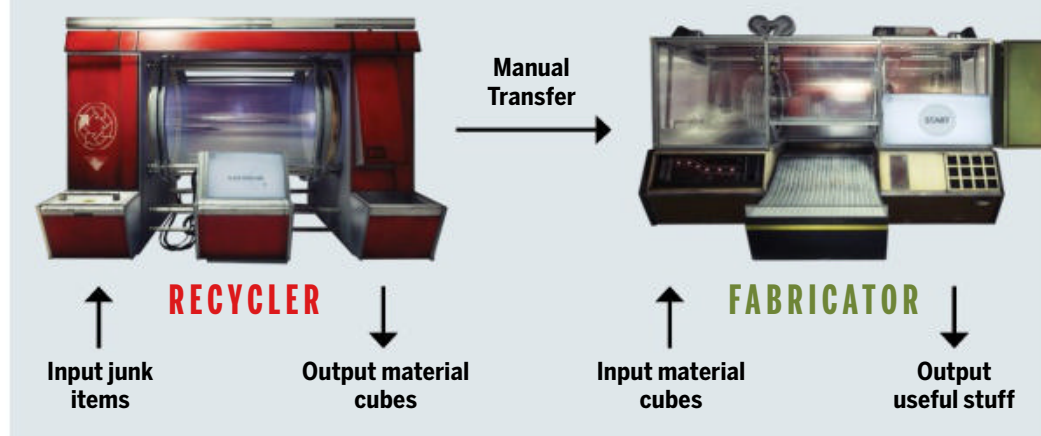
When I get to my office, I find a message from myself on the office's Looking Glass terminal, (imagine a giant Nintendo 3DS screen, but for messages rather than *Mario Kart*). Unfortunately, my brother, Alex Yu, sabotages the Looking Glass systems halfway through the recording, and fixing it requires me to visit the Hardware Labs division. As I pass through the Teleconference Room heading to Hardware Labs, I pick up a silenced pistol. I can't use it as a weapon, but pistols can shoot things other than hostile aliens, so it might come in useful elsewhere.

Upon entering Hardware Labs, I encounter a new type of Typhon—the Phantom, which sort of resembles Peter Pan's shadow if it went berserk and started killing all the kids in Neverland. Hastily, I deploy my turret, which eliminates the phantom but is wrecked in the process. I don't have the skill to repair it yet, which means I've lost my only reliable offensive ability. Rats!

Pressing on, my first port of call in Hardware Labs is the main office, where I bump into the head of the division—Jorgen Thorstein. Unfortunately, he's not Jorgen Thorstein anymore—he's a phantom. I use my GLOO gun to immobilize the creature, and then frantically begin to search the room. In the process, I find another explosive canister. I can't throw it at the Phantom like I did with that Mimic, but now I actually have a way to remotely detonate it. Carefully, I place the canister by the Phantom's GLOO-d up feet, take a few paces back, and

## FAB GEAR

### How Prey's crafting works



shoot it with the pistol. The canister pops, and so does the phantom. Not the cleverest solution, but so long as I'm one step removed from murder, I'm comfortable with it.

And lucky for me, there are plenty of explosive canisters lying around Hardware Labs, meaning I can reliably use this 'GLOO and 'splode' method to deal with other Phantoms lumbering around the division. As I explore, I pick up enough Neuromods to upgrade my repair skill, meaning I can reliably fix turrets so long as I have enough spare parts. After a lot of exploring, including a short hop through space to reach a depressurized section of Hardware Labs, I successfully repair the Looking Glass servers, meaning I can listen to the rest of my message.

## PSYCHO KILLER

Returning to my office, it transpires my past self wants me to destroy Talos 1, which means finding two arming keys to trigger the self-destruct sequence. To find the first one, I'll need to pass through an area known as Psychotronics. Upon entering the division, Alex calls me again to emphasize how dangerous Psychotronics is, which I quickly learn through experience after encountering a particularly powerful type of Phantom. I

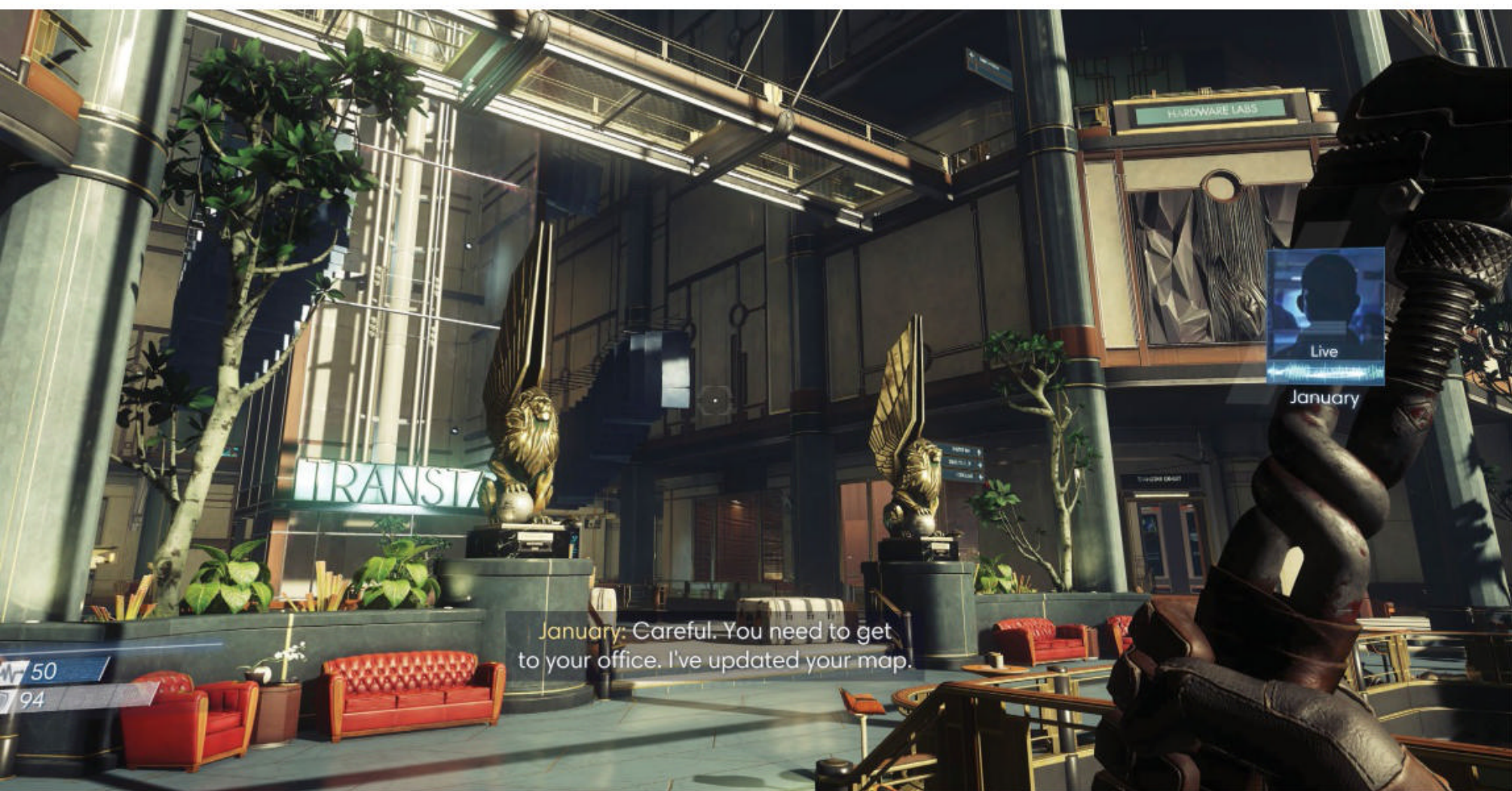
attempt lure it toward a couple of explosive canisters an item I picked up in Hardware Labs called the Typhon Lure, but when I detonate the canisters, the explosion only damages the Phantom a bit, and I end up fleeing the fight (if you can call my Looney Tunes tactics fighting, that is).

Venturing deeper into Psychotronics, I pick up a new item, the Psychoscope. This lets me scan the Typhons and upgrade myself with their abilities, like the Phantom's psi-blast and the Mimic's, uh, mimic. But I don't want to do that yet, because unlocking Typhon abilities will make the station's turrets identify me as a Typhon, and being able to turn myself into a chair isn't worth getting ventilated by my own defense systems.

BELOW: "It's a me, Morgan Yu!"







## BY THE TIME THE ROOM IS CLEARED, I'M FEELING PRETTY SMUG

This might change soon, though, as the turrets are providing diminishing returns. They're brilliant for mopping up Mimics, but almost every Phantom encounter leaves them damaged, and the repairs are eating up my spare parts faster than a robotic Gregg Wallace. At one point, I use a Fabricator (see boxout) to craft half a dozen wrenches, just so I can dismantle them into spare parts.

I'm beginning to wonder about the Mimic Room. This is actually the office of Annalise Gallegos, which someone has trapped a bunch of Mimics inside. I resort to my standard tactic for dealing with Mimics and deploy my turret, but the Mimics are already in mimic mode, and my turret won't shoot them until they reveal themselves.

### BOLT FROM THE BLUE

I could spring the trap by walking into it, but there are a lot of Mimics, and luring them out would put me between my turret and the aliens. Then I remember that, back in Hardware Labs, I picked up a Huntress Boltcaster. This is a toy crossbow with hard-capped foam

bolts. Useless in combat, it can be fired at buttons and touchscreens to trigger them remotely. In theory, it should also trigger the Mimics to attack without damaging them.

From outside the room, I shoot a chair with the Boltcaster, and it briefly turns into a writhing four-legged horror before being splattered to bits by my turret. Grinning, I use my Psychoscope to identify the remaining mimics, then aggro them with the Boltcaster while my turret does the dirty work.

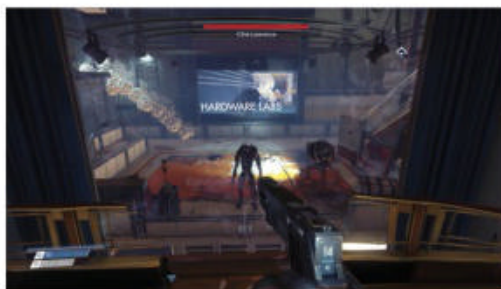
By the time the room is cleared, I'm feeling pretty smug. But my finest moment is yet to come. Just after clearing the Mimics, I'm attacked from behind by a Phantom. Its first Psi blast misses me, but wrecks my turret. I GLOO it up before it can corner me, but I'm almost out of GLOO and have no other method of eliminating the Phantom. I consider running, but then I

notice the red oxygen pipelines running along the hallway wall. I shoot the pipe where it runs past the phantom with my pistol, and a great jet of fire springs from the hole, barbecuing the Phantom in seconds.

It's a 'seeing the Matrix' moment. I hadn't prepared for that encounter at all, and yet I managed to resolve it without running away or breaking the rules. *Prey* was designed to reward resourcefulness and lateral thinking, and as I leave Psychotronics for my next destination, the Arboretum, I'm beginning to realize just how rewarding it can be. Perhaps it's time to invest in some Typhon powers after all. ■

**ABOVE:** Now that's a lobby.

**BELOW LEFT:** Navigating the station exterior is always a little wondrous.

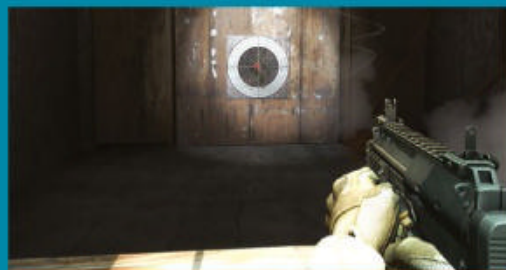






# THE VIRTUAL FIRING RANGE

Every shooter worth its salt should come with a practice range. *By Morgan Park*



**LEFT:** What better target to practice on than the exact models from an actual match?

**RIGHT:** The controls above are bullet-activated toggles for wall depth and UI elements.





**O**ne of the best game design trends in recent years is, practically speaking, a little boring. I can't stop thinking about the firing range—an old staple of videogame tutorials that, in the age of the service game, has taken new form as a reactive training ground for beginners and veterans alike.

We're in the middle of a competitive shooter golden age, and I'd argue one crucial indicator of a developer that really 'gets it' is a fully featured firing range. If your practice range is little more than a few plywood targets with a bullseye, you've messed it all up. The best videogame firing ranges are closer to training compounds, packing Willy Wonka levels of extravagant features and doohickeys purpose-built for experimentation, fact checking, and aim training.

In 2023 it's increasingly common for shooters to come with useful firing ranges, but there is one that stands above the rest.

## THE GOLD STANDARD

Despite being one of the newest faces in the FPS scene, Riot's competitive FPS *Valorant* comes stock with one of the greatest shooting ranges I've seen. The gun range includes not just stationary dummies to shoot at, but a timed reflex test, moving target, and replayable bot scenarios that teach the basics of checking corners and planting the Spike.

But by far my favourite of *Valorant*'s training island is the ranged target board. What makes this special is the option to slide closer or further away by shooting buttons on a control panel. Yellow holes left on the target let you quickly map out a gun's recoil pattern at every conceivable range up to 50 meters. There's even a full-body dummy that reveals limb-specific damage values, so you can tell exactly how many

## AIMING HIGHER

*Get good with these aim trainers*



### AIMLAB FREE

The best free aim trainer. You can select profiles meant to match the feel of specific games.



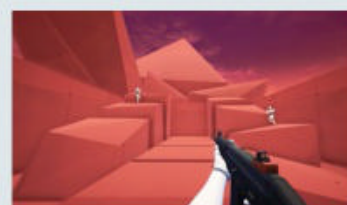
### AIMTASTIC FREE

A trainer with a larger focus on combining movement and camera control.



### KILLRUN \$5

*Killrun*'s parkour courses and silky shooting make it a fun way to warm up for a night of gaming.



### KOVAAK 2.0 \$10

The most expensive option of the bunch, but it does have an in-game map creator.

shots X gun needs to land on Y body part to get a kill.

It's commendable that *Valorant*'s shooting range isn't designed with beginners in mind. A training mode that holds the player's hand too tightly quickly becomes unhelpful. The game does have a separate guided tutorial that covers movement and shooting basics, but that training is meant to be played once and the shooting range is what you graduate into once acquainted.

Ubisoft took direct inspiration from *Valorant* for *Rainbow Six Siege*'s long-requested firing range, adding a few neat *Siege*-specific features along the way like the option to make the target dummy crouch, prone, or rotate to test limb penetration. It's not perfect, but it's a great start.

## PLAYERS KNOW BEST

As nice as it is to see developers take serious interest in aim training, they're really just playing catch up

with their own communities. For as long as developers have neglected to include useful training modes in competitive shooters by default, modders have been picking up the slack by making their own.

You think *Valorant*'s range is fancy? Riot can barely hold a candle to the most-subscribed CS:GO training room designed by Steam user uLLetical.

Appropriately titled 'Aim Botz—Training', this one custom map is an aim trainer's paradise. A complete collection of guns lines the concrete trim of the no-frills octagon. The primary control board lights up, offering toggles for everything from number of bots, combat sims and elevation to standing height, speed, and even 'FPS boost' options that disable elements of the map for maximum frames. My favorite touch is the metronome that is presumably helpful when trying to shoot at a consistent pace.

The only downside to uLLetical's stunningly comprehensive Aim Botz map is that you have to seek it out on the Steam Workshop to get it, and Valve's official training mode is useless by comparison. *Overwatch* is in a similar situation—its firing range is long overdue for an update, but

## THERE'S EVEN A FULL-BODY DUMMY THAT REVEALS LIMB-SPECIFIC DAMAGE VALUES

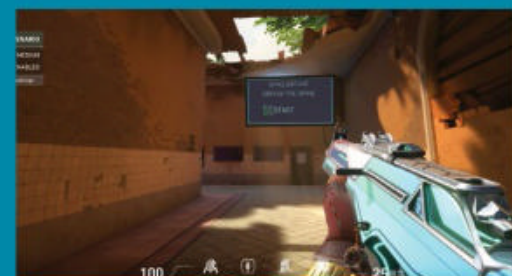
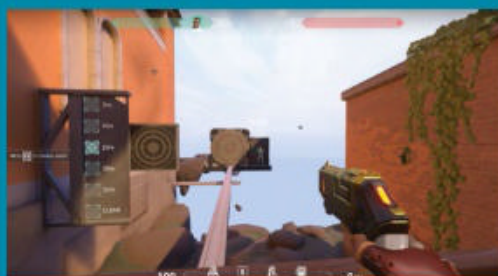
players have filled in the gaps with extensive training modules.

We have these talented modders to thank for pushing beyond the boundaries of training courses and proving that there's an audience for FPS self-improvement. If Valve and Blizzard really want to get ahead of the curve, they should make some of these modes official destinations on the main menu. ■



**LEFT:** *Siege*'s firing range can always answer the question, "Does this gun just really suck?"

**RIGHT:** *Valorant*'s range wins the award for "most fun target to slide back and forth".







# THE WITCHER 2: ASSASSINS OF KINGS

Coming to terms with not liking CDPR's breakout RPG. *By Ted Litchfield*

**C**D Projekt Red recently unleashed *The Witcher 3: Next Gen*, a big ole 4.0 update with new items, quests, graphical enhancements, a revamped camera, and ray traced lighting that nobody's GPU can handle. It was, of course, time for a replay, and I'm obsessive and neurotic about these enormous RPGs where choices carry from game to game, so replaying *The Witcher 3* means replaying *The Witcher* saga. I tore through *The Witcher* making the same choices I always do (what kind of hall monitor sides with the Order of the Flaming Rose

anyway?) and arrived at *The Witcher 2: Assassins of Kings*.

This is the game that put CD Projekt on the map, a graphical powerhouse that laid rigs low with übersampling. It's a memetic icon of RPG choice with two completely different second acts! Amidst the rise of tablets, the ascendancy of the Xbox 360, and a premature declaration of "the death of the PC," *The Witcher 2* said, "PC gaming ain't going anywhere, baby." But I've got a horrible, terrible, unspeakable secret: I just don't like this one very much.

*The Witcher 3: Wild Hunt* is easily one of my favourite games. It's one they hand you with your PC gamer

card alongside *Half-Life* and *Doom* for a reason. *The Witcher*, meanwhile, is a wonderful, ambitious, Eurojank throwback. A charismatic relic that, despite a notoriously botched English translation, still has that wonderful pagan rites meet the Brothers Grimm vibe I've come to demand from the *Witcher*-verse.

I've always found *The Witcher 2* to be an awkward sophomore outing by comparison, an untenable midpoint between the charming rough edges of *The Witcher* and the flawless excellence of *Wild Hunt*. *Assassins of Kings* is mechanically complex without being particularly deep, and it's guilty of the sort of overly edgy "this isn't your old man's RPG" writing critics usually ding *Cyberpunk 2077* for. But I opened my heart to the possibilities: I'd go for that alternate second act I'd never seen before and maybe try a different build, all in the hopes of discovering the game everyone found to be such a triumph over the first one.

## NEED TO KNOW

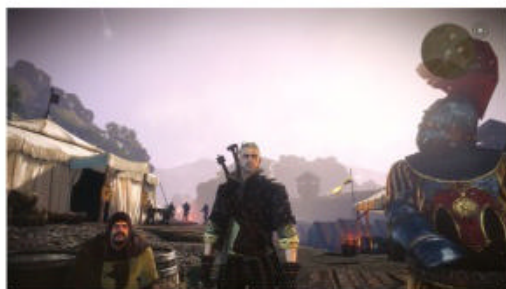
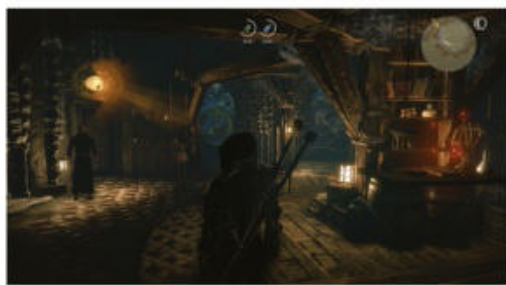
**RELEASE**  
May 17, 2010

**DEVELOPER**  
CD Projekt Red

**PUBLISHER**  
CD Projekt

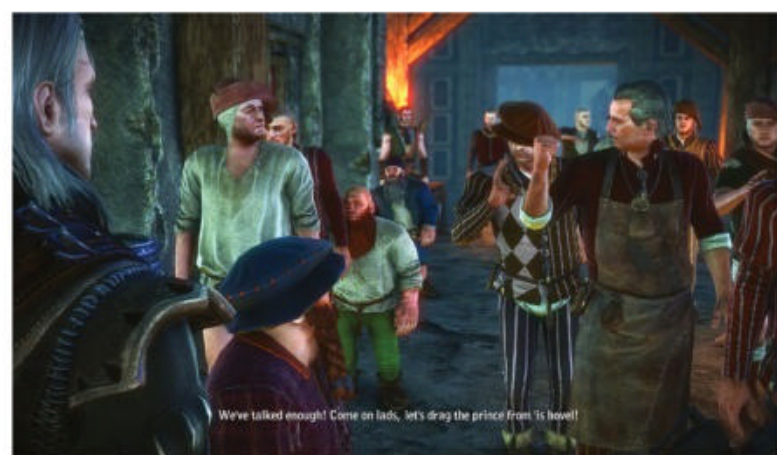
**LINK**  
[thewitcher.com](http://thewitcher.com)





**LEFT:** *The Witcher 2* did initiate the series' excellent portrayal of trolls as slow but lovable dullards.

**ABOVE:** Henselt's soldiers are all stinky and weird.



## SECOND CHANCE

Neither saved it for me. At the end of *The Witcher 2*'s first act, the fate of awful backwater Flotsam hangs in the balance! Do you side with elven terrorist beloved freedom fighter Iorveth in order to go after the kingslayer, or do you pick medieval cop Vernon Roche so you can go after the kingslayer, but over here instead? I'm a creature of habit, if my repeated

replaying of this 150-hour series wasn't indication enough, and I get really invested in my role playing, so when I come back to a moral choice I made the first time, I usually stick with my guns! Iorveth is right, after all. Still, there's a whole chunk of this game I'd never seen before, so I gritted my teeth and aided grumpy swordy spec-ops dad Roche instead. I thought, "What if the game

## I GRITTED MY TEETH AND AIDED GRUMPY SPEC-OPS DAD ROCHE INSTEAD

everybody else thinks is so good is hidden away in Roche's Kaedweni camp adventure?"

To my great relief, it was not. As confounding as the political maneuvering in Iorveth's besieged dwarf town of Vergen is, it absolutely beats palling around with a gaggle of real assholes in King Henselt's miserable gray mud pit. The charm of *The Witcher*, for me, is how much this awful world can prove a glass half-full. This mutated killer we follow around is a warm hearted romantic with a wry sense of humor, and not all monsters need to be killed. Things can be grim and not always work out, but that levity provides a necessary contrast.

In Henselt's camp, there's really no such silver lining or pleasant surprise anywhere. The king himself is a petulant rapist and warmonger, and it sticks in my craw that *Assassins of Kings* presents a choice of killing him or not as some kind of weighty conundrum. His advisor,

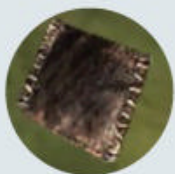
## VENDOR TRASH

*Why do I have all this crap?*



### ROBUST CLOTH

There's regular cloth in *The Witcher 2*, but that won't do. It must first be transmuted into the venerable Robust Cloth, a key ingredient in the various jerkins, breeches, boots, and mittens you'll be chasing for incremental armor upgrades.



### HARDENED LEATHER

You're going to need a ton of Hardened Leather to craft high-quality weapons. Vendors have a limited amount, so you'll have to go on a little quest getting regular leather you can craft into Hardened Leather.



### STUDDED LEATHER

Oh, and Hardened Leather can actually be crafted into Studded Leather. You'll need lots of Studded and Hardened Leather to outfit your six slots. I needed a paper and pen to calculate how much detritus I had to accumulate.



### TIMBER

Alright, am I playing *The Witcher* or is this *Age of Empires* all of a sudden? Am I crafting silver swords, or a got a danged town center to challenge the Ottoman Turks? Indicative of a deep identity crisis in *The Witcher 2: Assassins of Kings*.





**LEFT:** The armwrestling minigame is fun, but it's no Gwent.

**TOP:** There's just no beating the dwarf town of Vergen, the highlight of the game for me.

Deathmold, is a creepy torturer, and while Roche can be a real winner, I find most of his best moments are in *The Witcher 3*. As for the camp's second order inhabitants, it's a total bust. Vergen has all kinds of colourful and eccentric dwarves, elves, and mages handing out quests and populating its drama. The Kaedweni troops, by contrast, are a bunch of bores and boors. "Oi Witchorrrr, ye git any poughin' in afore the big battle? Gonna cut me some elf ears tomorrow I reckon..." It all wore thin for me very quickly.

I'd seen enough: I hit the eject button, rewinding all the way to when you choose your allegiance between Roche and Iorveth. Though I'd seen it all before, Vergen is probably the highlight of the game for me—it's got the most of that *Witcher* colour that I find otherwise absent from *Assassins of Kings*. Sorry Roche, but I guess I'll just see you in the next game. Besides, this is my one chance to hang out with Iorveth—my revolutionary fellow traveller was MIA in 2015.

## THIS DOESN'T MATTER

No matter what you do and who you run with in *The Witcher 2*, the board's set pretty much the same

way come *The Witcher 3: Wild Hunt*. While trawling for character guides and the like for this playthrough, I discovered a heartbreaking little forum post outlining an 'optimal' world state to enter *The Witcher 3* with—what fate should you ordain for Vergen, Henselt, the Termerian royal bastards, or the conclave? What will leave the North with the strongest

chance against Nilfgaard? It doesn't matter at all really.

I saved Vergen, released Saskia, and got that punk Stennis absolutely ganked by a peasant mob, but all this capital-c Choice and Consequence barely registers even a passing mention in *Wild Hunt*. I don't even resent *The Witcher 3* for it—with the third game, CDPR cut the gordian knot, said, "I ain't reading all that," and was stronger for it. I lay the blame at the *Witcher 2*'s feet for cooking up a headache-inducing spaghetti tangle of bastards, territorial claims, allegiances and betrayals.

*The Witcher 2*'s dozens of end states and moral choices just feel flaccid and pointless compared to the sweep of the whole series—who cares if Flotsam is Temerian or Kaedweni if neither of those countries even exist come *The Witcher 3*? Why on earth would I prioritise founding the Conclave in Loc Muinne if the Witch Hunters always start their persecutions in *The Witcher 3* anyway? *Wild Hunt* does track your most important choice in *The Witcher 2* at least: You can keep that goofy little tattoo Geralt gets in a Hangover-inspired sidequest in act 1.

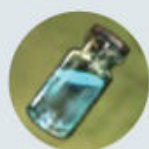
## HAPPY HOUR

### My preferred Witcher brews



#### ROOK

Safe, reliable, boring. Rook provides a flat damage bonus with no downsides. Really I'm just interested in its name: this potion doesn't show up in the other games, and I always associated it with chess before finding out it's actually a species of bird.



#### GADWALL

Another eye-catching name, this one referencing a species of "dabbling" duck. Gadwall cranks down your damage output in favour of tuning up your hit points and health regen. Fairly useful in a game where everything kills you in three hits.



#### THUNDERBOLT

Glass cannon mode, DPS time. Thunderbolt halves your max hp and regen but ratchets up the damage you deal. With feats that reduce the negative effects of potions, it synergizes with Gadwall to boost you across the board. Shame potions are such a pain to use.





## NEEDLESS COMPLEXITY WITHOUT DEPTH

My other big experiment, an alchemy-focused build, was a similar bust. Potions are on an unforgiving timer that does not pause for cutscenes, and Geralt has to pop a squat and load between two menus to even drink them, let alone brew a batch up. At its best, alchemy is one of the series' best flourishes. Potion imbibing contributes to this sense of Geralt's profession: he isn't a fighter, mage, or thief, he's a witcher, and has to fight accordingly.

Even with a mod to boost potion durations, I was feeling the squeeze. My breaking point came with the prolonged ghost battlefield sequence at the end of act 2. Your prepped potions immediately get cancelled, and you have to play as these sluggish wraith soldiers who can't pull off Geralt's dodge roll, but do, confoundedly, benefit from his combat skill tree investments like its active counter. I grabbed another mod to respec, and just facerolled the rest of the game.

I was similarly fatigued by the item system here—you're inundated with a constant stream of cloth bolts, leather scraps and iron nails,

## IT'S AN UNWIELDY, FRUSTRATING SYSTEM THAT MAKES MY JAW CLENCH

but it still always feels like I never have enough materials to quickly and easily craft *The Witcher 2*'s best gear. It's an unwieldy, frustrating system that makes my jaw clench just thinking about it, but downloading another mod to streamline it all underlined how much these layers of vendor trash and crafting screens obfuscate a simple, stultifying system of "numbers go up."

### FINDING FUN

It isn't all bad—this game is still absolutely gorgeous, no two ways about it. Released all the way back in 2010, *The Assassins of Kings* looks like it belongs to the PS4 generation. The real star, by my estimation, is CDPR's modelling work, and even Geralt's garbage tier early game leather jerkins outshine endgame armour sets from other RPGs in design and detail.

I turned on the infamous übersampling setting for laughs—



this ambitious form of supersampling effectively renders every frame of gameplay four times, and back in the day just brutalised my mid-tier Radeon HD 6790. I got a certain catharsis from pushing 80fps with the setting on, but very quickly switched it off to get an even more buttery smooth 140. *The Witcher 2* established CDPR's tech legend: the studio that three years before was making a wonky game for nerds on the *Neverwinter Nights* Aurora engine was now all of a sudden running with the big dogs and producing some of the best visuals in gaming. I will always admire *The Witcher 2*'s ambition, from its visual advances to its mutually exclusive second acts.

I appreciate *The Witcher 2* as an evolutionary step in a series I love, and I'll never turn down more Geralt, but I'm finally at peace with being a *Witcher 2* hater. After beating it two and a half times over 13 years, I'm comfortable rating it pretty low, a merely OK RPG in between two favourites. I'm really glad to finally play *The Witcher 3* with that tattoo though—I crack a little smile whenever I notice that strange little topless lady on Geralt's neck. ■

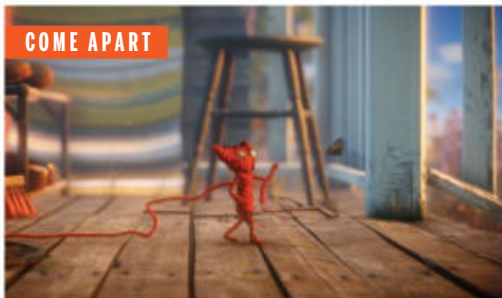


## TYLER WILDE



It's been dark and rainy here in California—how dare it—and that's put me in a dark and rainy mood, so here are some dark and, in some cases, rainy games.

## COME APART



## UNRAVEL

[ea.com/games/unravel](http://ea.com/games/unravel)

→ Yarn-based hero Yarny might seem cute at first, but then you realize that he sacrifices the very structure of his body to traverse the puzzling environments these cold-blooded game developers have laid out for him, literally unraveling for our satisfaction.

## STOMPIN' TIME



## MECHWARRIOR 5: MERCENARIES

[mw5mercs.com](http://mw5mercs.com)

→ Lumber around dreary alien planets in big dumb war machines, shooting tanks with lasers and thinking about heat management. If last year's *Armored Core 6* announcement also got you in a mech-customizing mood, *MW5* is a quality throwback.

## HAVE A SLICE



## HELLISH QUART

[bit.ly/3IWH8iB](http://bit.ly/3IWH8iB)

→ A ruggedly Early Access sword dueling game with no online multiplayer, except as facilitated by streaming, which isn't ideal. But it's the only recent game that really brings me back to PlayStation classic *Bushido Blade*, where one good stab ends the round.

## SAVE MAGIC



## ZORK: GRAND INQUISITOR

[bit.ly/3HfCP0a](http://bit.ly/3HfCP0a)

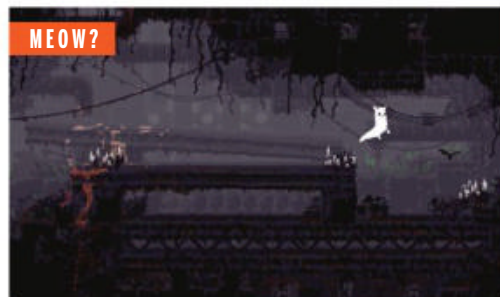
→ Come for the 1997 FMV cutscenes featuring brilliant shouting by Erick Avari as the magic-hating Grand Inquisitor, stay for the delightfully stupid puzzle solutions, like a spell that turns things invisible, and one that simplifies instructions. One of my favorite games of all time.

# MUST PLAY

A PERSONAL LIST OF  
THE BEST GAMES YOU  
CAN PLAY RIGHT NOW

by Tyler Wilde

## MEOW?

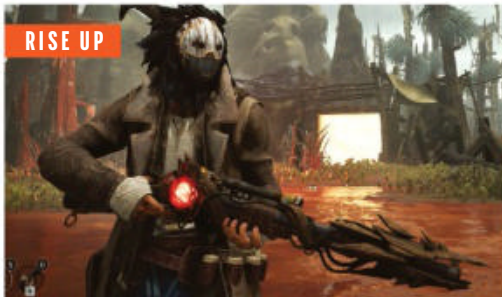


## RAIN WORLD

[rainworldgame.com](http://rainworldgame.com)

→ Ah, just what I was looking for: an entire world of rain! Also, the rain is deadly. This is the most miserable game on this page, guaranteed to alienate many with its oppressive difficulty. But isn't its hungry, squishy little hero so cute? It's called a slugcat. You love it already, I bet.

## RISE UP

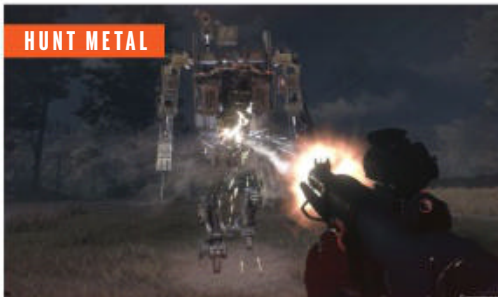


## REMNANT: FROM THE ASHES

[remnantgame.com](http://remnantgame.com)

→ Since a sequel was recently announced, now's a good time to give this 2019 co-op shooter a go. Its weird fantasy horror world is best experienced with friends, who will also annoy the hell out of you by shooting at you for fun, if your experience is anything like mine.

## HUNT METAL



## GENERATION ZERO

[generationzero.com](http://generationzero.com)

→ It's basically *The Hunter: Call of the Wild*, but instead of bucks and moose, you're hunting mechs. There's a story and missions and yadda yadda, but I'm serious: this is a co-op robot hunting game. Some willingness to make your own fun with friends required.

## SPOOKY TRAILS



## BETRAYER

[blackpowdergames.com/betrayer](http://blackpowdergames.com/betrayer)

→ An eerie black and white and blood red shooter set in a failed 17th century Virginia colony. It's like an obscure, violent indie film you'd feel cool for recommending to your friends, which is why I'm recommending it to you now (despite giving it a 67% when it released).



# HARDWARE

## GAMES DESERVE



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Build a brilliant PC gaming rig no matter your budget.

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#### GROUP TEST

Save space and type like a pro with a compact mechanical keyboard.

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How AI is radically shifting the benchmark for PC performance.

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#### TECH TALES

The dos and don'ts of restoring old rigs back to operational glory.





# COMPACT KEYBOARDS

These mechanical keyboards save space on your desk and look totally adorable.

*By Jacob Ridley*





There are a few reasons you might want a compact gaming keyboard. The obvious one being they're far, far smaller than a full-size keyboard and therefore don't take up as much space on a smaller desktop. That leaves you with more space to throw your mouse around at a lower CPI. You might also find you simply don't need a numpad for your day-to-day; lopping it off entirely will save you space and often even money.

The main reason for these tenkeyless and smaller keyboards, however, is they're straight up adorable. There's no doubt about that. The main issue being that most keyboard manufacturers have a compact keyboard or five that they hope will convince you to part with your money, ranging from miniature macro machines to optical gaming-first options. We've tested six of these to help narrow down your options.







**THE BUILD QUALITY IS ABSOLUTELY EXCEPTIONAL AND THE WEIGHT OF THE AZOTH IS EXTREME**

## ROG Azoth

ASUS **\$250**

### Tiny keyboard, massive price

**1** Did you hear? Enthusiast gaming keyboards are in this year. Of course, we've been talking about enthusiast keyboards for a while now, but some major tech brands are only just taking things seriously with specially tailored boards for the high-end market. The Azoth is one such keyboard. And, honestly, it's a doozy. The build quality is absolutely exceptional and the weight of the Azoth is extreme. And I love it for that. It's also been built with all the pre-lubed, gasketed, dampened trimmings you'll want for that premium typing experience. The

included ROG NX switches are a smooth Cherry-like linear, but the whole board is hot-swappable so you can change things up as you see fit. Of course, there's also a tiny OLED screen on the board that you can customize to your liking. The only real sticking points are the price and to some extent the lackluster Armory Crate software. I'd never spend \$200+ on a gaming keyboard, so I don't really know how I can recommend that you do.

#### PC GAMER VERDICT

- Outstanding build quality
- Great typing experience
- How much?!

**SPECS** SIZE: 75% / **CONNECTIVITY**: WIRELESS (2.4GHZ, BLUETOOTH, USB TYPE-C) / **SWITCHES**: ROG NX (HOT-SWAPPABLE) / **RGB LIGHTING**: YES, PER KEY

## 60HE

WOOTING **\$175**

### Awesome analog

**2** The Wooting 60HE has a party trick: each key on this compact keyboard is completely analog and can deliver a range of actuation far beyond the pedestrian on or off we're used to. This means it's possible to choose your own actuation point, anywhere from 0.1mm to 4mm. There's even the option to set this on a per-key level, so your WASD and spacebar could theoretically be quicker to actuate than others around them. You can also enable a feature called Rapid Trigger, where the 60HE will register a key press on a downstroke and then intelligently

reset that press when you release the key. This makes for practically light-speed response times for competitive shooters.

There are actually too many features to list here, but the key takeaway is this keyboard does a lot more than its diminutive frame suggests. It's all controlled through Wooting's Wootility app, which not only has the best name on the market but is by far the best keyboard customization engine out there, too.

#### PC GAMER VERDICT

- Leading analogue features
- Genuinely beneficial in-game
- Wootility is awesome

**SPECS** SIZE: 60% / **CONNECTIVITY**: WIRED (USB TYPE-C) / **SWITCHES**: LEKKER HALL EFFECT (HOT-SWAPPABLE) / **RGB LIGHTING**: YES, PER KEY





2



3



4

## HOT-SWAPPABLE SWITCHES

A growing trend in gaming keyboard launches is the inclusion of hot-swappable switches. These aren't a completely new idea—enthusiast keyboards have had these for years—but you'll find plenty more boards from big-name brands including them right now. And I'm absolutely here for it. Essentially, a hot-swappable keyboard means its PCB has lots of tiny sockets built into it. These house the key switch's mounting and electrical pins, thus removing the need for soldering. In turn, that allows a user to pluck switches out of the board at will, and replace them with other switches with similar mounting. Usually, you'll be able to swap most mechanical switches with one another, but some optical and Hall effect switches can only be replaced by those from the same brand.

## Apex 9 TKL

STEELSERIES \$140

### Optical advantage

**3** The Apex 9 TKL is as compact a keyboard as you're going to get without buying a smaller 60% board or one with all the keys smushed together. There's very little more to the frame on the Apex 9 beyond the keys themselves, but it feels sturdy enough. The main allure of the Apex 9 is its optical switches. If you don't already know, these switches use light to actuate. That's instead of the more traditional mechanical contact point you'd find on, say, Cherry MX switches. The benefit of optical comes down to things like debounce, actuation times and

response times. SteelSeries' OptiPoint switches do all of these things very well. They also allow for a choice between two actuation points, 1.5mm or 1mm.

The Apex 9 doesn't offer everything the Wooting 60HE does, which is a shame as I had expected more of its optical switches. I'm also not a huge fan of the compact media controls. That said, it's a well-built board. With a good discount I wouldn't be afraid to recommend it.

#### PC GAMER VERDICT

- Quick optical switches
- Two-mode actuation
- Tiny media controls

**SPECS** SIZE: TENKEYLESS / **CONNECTIVITY**: WIRED (USB TYPE-C) / **SWITCHES**: OPTIPOINT OPTICAL (HOT-SWAPPABLE) / **RGB LIGHTING**: YES, PER KEY

## Function MiniTKL

NZXT \$100

### Swing and a miss

**4** I cannot wait for NZXT to release the next version of the Function MiniTKL gaming keyboard, because this first foray into the world of enthusiast keeb is so damned near close to being good. It's ultimately not, but only for reasons that will be incredibly easy to fix in subsequent versions of the board. The main selling points of the Function are the heaps of customization options available for it, from various switches to keycaps. It's surprisingly cheap if you go for the standard Red switch option, too. Though this is all largely positive, the underlying board

itself is what lets the Function down in the end. The biggest issue I had when I first started using the MiniTKL was the uneven sound of the board. The Silent Black Ink switches are fantastic on the standard keys, but as soon as you hit a key with a stabilizer, such as the spacebar, shift, or enter keys, you really know about it. The placement of the shortcut keys down its side is also a pain if you move your keyboard around often like I do.

#### PC GAMER VERDICT

- Volume wheel is ace
- Poor stabilisers
- PBT caps block the light

**SPECS** SIZE: NON-STANDARD 'MINITKL' / **CONNECTIVITY**: WIRED (USB TYPE-C) / **SWITCHES**: GATERON (HOT-SWAPPABLE) / **RGB LIGHTING**: YES, PER KEY



Neural network AIs are becoming an ever-bigger part of PC graphics. Hasn't Nvidia ever seen Terminator?

# GOING DEEP

**LEARNING AIs** are breaking PC gaming and rebuilding it in their own image

**I**n the year of our lord Gaben 2023, Nvidia's DLSS and AMD's FSR both offer an AI-driven means of running games at a higher resolution than your graphics card and monitor are actually outputting at. They're both driven by fearsomely clever mathematics that's analyzed trillions of frames from the games they support, and learned to interpolate what the transition from one frame to the next looks like. They've learned every pixel's most likely next move, even at 8K resolution.

They also have this in common, too: they both make your games look like they've been dipped in a vat of Vaseline. OK, fair enough—that's a slightly harsh description. But AI resolution upscaling is generally used as a bit of a last resort at present. It's something you fall back on when you realize you're not going to hit a stable 60fps natively without turning down something absolutely vital in the graphics settings menu, like *Elden Ring* bear hairiness, or *Total War: Warhammer III*'s lizardmen scale reflection quality. And you didn't fight in two world wars to play games on medium.

## GLHF DLSS

What's actually happening when you select either Nvidia or AMD's AI upscaling is that a dedicated core is analyzing each frame that you render in a lower, achievable resolution, and

comparing it with the trillions of higher resolution images it's seen before. They've been rendered back at Team Red and Team Green's server farms, usually before release, and compiled into code that fits into a GPU driver update. Then, the Tensor core on an Nvidia card analyzes all that code and after doing so it essentially knows what your low-res frame should look like at a higher resolution. So it fills in the details for you without demanding that the rest of the GPU's circuitry goes through the resource and time-hungry process of rendering it all natively.

The way that works is important, because it all hinges on how well-trained the learning AI is, way back at the manufacturer's HQ. The better trained it is, the more effective it becomes at rendering more convincing, higher detail frames. We're not waiting for a die shrink, a change to a manufacturing process, or the advent of quantum computing for this technology to improve. It's improving all the time.

With every new driver update, both Nvidia and AMD are tooling up in a deep learning arms race. Their rival technologies deliver ever-better performance gains, and even though it's still appropriate to make Vaseline jibes about them, the end result is already noticeably better than it was in 2019 when the tech was introduced.

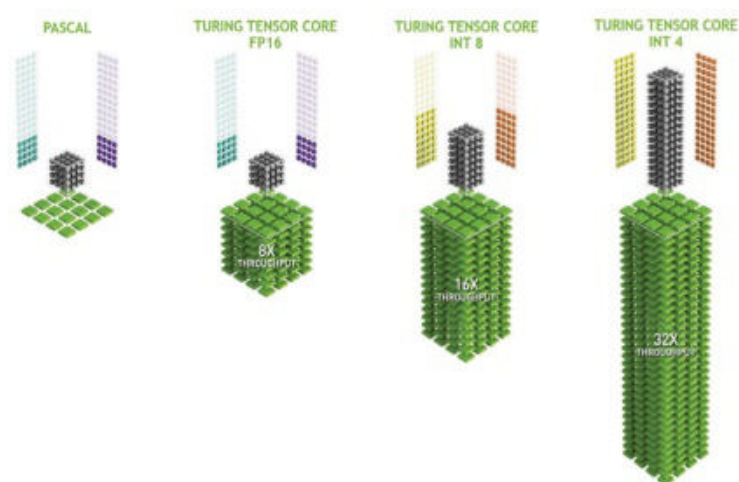
It's not unreasonable to imagine, then, a near future in which machine learning takes away most of the grunt work involved in rendering complex 3D environments. Whether we



## Surface tension

In mathematics a tensor is a device that describes the relationship between all other mathematical objects, like connective tissue, and that's sort of what's going on at microprocessor level. It needs to understand the relationship between every bit of data in a vast neural network in order to implement all that data in-game—something it's much better at than a traditional CPU because it's designed to handle huge volumes of data.





**FAR LEFT:** Tensor cores: how do they work? Nobody knows, but look at this impressive image of one!

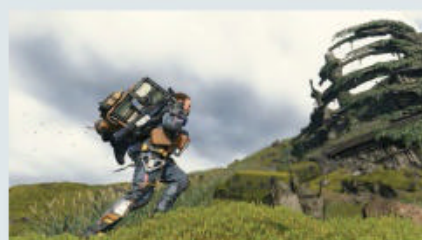
**LEFT:** AI upscaling might soon approach fidelity levels ready for competitive gaming. Extra fps = extra k:d.

## RISE OF THE MACHINES *The evolution of our future AI overlord*



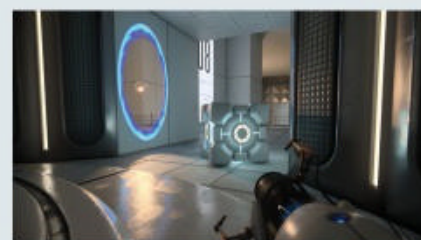
### DLSS 1.0

Released primarily as an image upscaler which required prior 'image loading' from games, delivered via driver updates.



### DLSS 2.0

After taking the task off the Tensor core and onto CUDA cores, v2.0 no longer needed prior training.



### DLSS 3.0

Now using 'optical flow'—analysing two natively rendered frames and interpolating the differences.



### SKYNET

I for one welcome the rise of our new robot gods. Remember to keep your GPU drivers up to date so you don't miss out.

stream those images from remote server farms and receive frames that are sufficiently uncompressed and latency-free that we can't discern them from old-fashioned natively rendered frames, or we employ a leveled-up incarnation of deep learning databases interpreted by dedicated cores on our GPUs, the future looks like a PC gaming landscape where every game runs maxed out on every machine. What would that do to our time-honored traditions?

Over in the realm of consoles, there have never been graphics options screens. Not the way PC games have had them, at least. Adjusting the gamma doesn't count. The proposition has always been one of simplicity: you load up the game and... just start playing it. Imagine that.

### PRESET SLAYER

Tinkering, overclocking, upgrading and obsessing over the most minor graphical details—these things have been the preserve of PC gaming. The idea of loading up a game and actually playing it within 45 minutes of hitting the main menu screen is totally alien. In other words: machine learning is about to fundamentally change our favorite hobby.

For example: will game developers strive to reach ever-higher standards of visual fidelity in the knowledge that the AI supercomputers back at Nvidia and AMD will pick up the slack? Or will they continue to hit the same visual mark year after year knowing that deep learning AIs can reliably deliver that complexity of rendering on everyone's machines?

When we look back over the years, it's been either landmark tech breakthroughs or severe constraints that

have inspired the best games. Early graphics cards birthed *Doom*, for example, but despite the arrival of incredibly exciting 3D graphics, the limitations of the time meant id Software had to work really hard to conjure the atmosphere and feel. Every note of the soundtrack, every pixel of every sprite, was all working towards the same common goal: to scare the absolute living hell out of you and give you a one-of-a-kind, adrenaline-soaked journey in 2.39MB of data.

There's innovation here certainly, so half the formula for brilliant new frontiers of gaming is present. Being able to harness deep learning for graphics raises the ceiling on fidelity like a brand-new console generation does. But are the constraints also sufficient to inspire creativity?

Perhaps. It's not like maintaining these deep learning AIs is cheap or easy, so there are certainly overheads for the likes of Nvidia to consider, and that has a knock-on effect on their

effectiveness in PC gaming performance. But previously, developers had a rough idea of the spec range their PC audience owned, and they could ingeniously wring the neck of their game engine to get more out of it accordingly. Now with AI doing a lot of the hard work, it's less clear cut what the developer's audience can and can't run.

It's happening quickly. In the last few moments PC gaming has left in its current form, before learning AI shatters all previous notions of PC performance and the noble pursuit of building a rig that can handle *Cyberpunk* at max settings, we just about have time to consider this: we should be careful what we wish for. ■

**Phil Iwaniuk**

## BOTH NVIDIA AND AMD ARE TOOLING UP IN A DEEP LEARNING ARMS RACE



# CACHE IN THE ATTIC

The dos and don'ts of **RESTORING OLD MACHINES** back to operational glory

**T**here's an inevitable metamorphosis that takes place inside every PC gamer. We spend the first few years of our RGB-infused passion chasing the new, and then... well, we continue doing that for as long as the likes of Nvidia, AMD and Intel tell us to. But we also start to chase the old, too.

We hoard our old gear without a clear plan, and start to fetishize old beige wonders from bygone eras. And we're absolutely right to: old gaming PCs are incredible.

Getting these old rigs operational again isn't as easy as plugging them in and covering your nose while the exhaust fans disperse 17 years of dead skin across the room. Depending on the Windows version that's installed on that creaking HDD, the panel and peripherals you'll be hooking it up to, and the format of games you want to play, you've got a few separate workflows ahead of you.

## BEIGE-ING GRACEFULLY

For the oldest machines—Windows XP era and older—it's crucial to give everything inside the case a deep clean. And not just for the aforementioned scattering of dead cells – finding NOS [new old stock] parts for these PCs is really tough, and finding NOS parts that are actually compatible with your machine is roughly as complex as just soldering a new motherboard by hand. In other words: you're going to want every fan and capacitor to last as long as possible.

The best way to do this is to take a couple of cans of compressed air to the case interior, while the motherboard and all components are still installed inside it. Once most of the dust and detritus are gone, it's worth pulling out the mobo and giving each individual fan some attention with a cotton bud. The less dust they have on their blades, the quieter they'll run and the longer they'll last.

With the motherboard out of the case, now's a good opportunity to give it a deep clean with some isopropyl alcohol and a clean cloth or cotton bud. Don't worry—it's safe, and it won't leave a residue. It's especially good at cutting through dusty build-up, and from an aesthetics standpoint you can't beat the shine it leaves on a PCB.

It's ready to rebuild and power on now, but there some important considerations at software level. Firstly: don't try to connect a Win98 machine or older to the internet. Aside from the life-shortening faff of it all, the security risks are considerable, since Microsoft stopped supporting those OSes with security fixes decades ago.

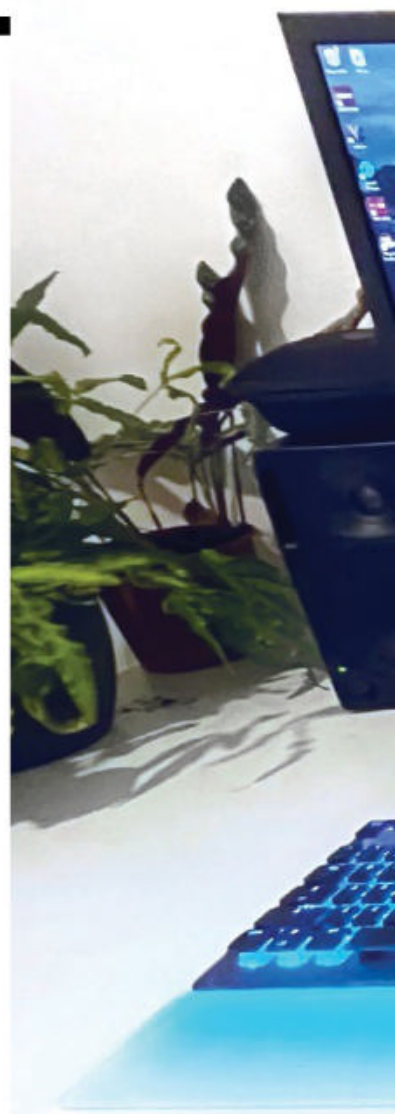
Instead, you'll need to load software onto your machine via CDs if you have a burner installed on a more recent rig. You can also install a generic driver for USB flash drives, but of course you'll need to deliver that driver onto your old OS via a CD in the first instance.

With basic drivers installed via CD or USB drive for your graphics card and any peripherals like joysticks, all you need to worry about now is installing the games. ISO files are available on abandonware sites, but the legality here isn't clear cut—and besides, nothing beats the nostalgia of getting a big box copy of a 1990s game through the post. If your machine's about preserving a moment in videogaming past, why not extend that to the game collection you're playing on it too?

## NAND DESIGNS

Onto more recent machines. Your old *Crysis* system, running the finest Vista that 2007 had to offer. The Windows 7 rig that isn't quite old enough to be retro yet, but might one day become so. Unfortunately, the security concerns remain here—it's unwise to connect these machines to the internet, and since you'll probably want to play games from your Steam collection on them that presents a hurdle. If you can live with the temporal dissonance, installing Windows 10

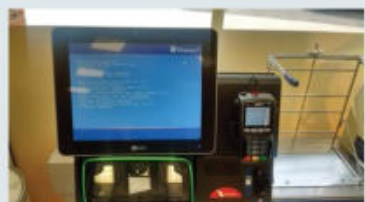
**IT'S CRUCIAL TO GIVE EVERYTHING INSIDE THE CASE A DEEP CLEAN**



**PHIL IWANIUK**

"In 50 years, they'll all be knocking down my door for a glimpse of my XP rig," Phil recently told us. The way he consumes candy, we'd say that life expectancy is optimistic at best.

## SEE-THROUGH Ancient Windows versions propping up our infrastructure



### SUPERMARKET SELF-CHECKOUTS WINDOWS XP

We've all seen them crash and revert to that familiar pastoral desktop background, haven't we? Time for a game of *Pinball*.



### NATIONAL POWER GRIDS WINDOWS 98 OR OLDER

Vital infrastructure's up to it too. The cost of updating this software would be astronomical, so... they don't. Sounds like a plan.



### AIRPORTS WINDOWS 3.1

As recently as 2015, Orly Airport in France had to ground all its planes due to a system malfunction – caused by Windows 3.1, as released in 1992.



### A THIRD OF ALL COMPANIES WINDOWS XP

Apparently The Man just can't let go of 2001's finest coding. A recent Microsoft study estimates 31% of companies still use XP. At least it's not Vista.





onto these PCs is the easiest fix. Unlike its progeny, its minimum specs are extremely low—a 1GHz CPU, 1GB of RAM and a DX9 GPU—so your Vista machine can probably handle it. Installing a fresh copy of Win10 will clear out all the hard drive silt that's accumulated over the years, and let you connect to Steam without unleashing cyberattack armageddon into your Wi-Fi network.

And if you're hellbent on the full nostalgia hit of seeing the original OS in all its Aero glory, consider installing Win10 and then running a VM with the older OS in it. That way, you can download everything you need in Win10 and then head a layer deeper into your PC gaming Inception to play your games offline in VM Vista.

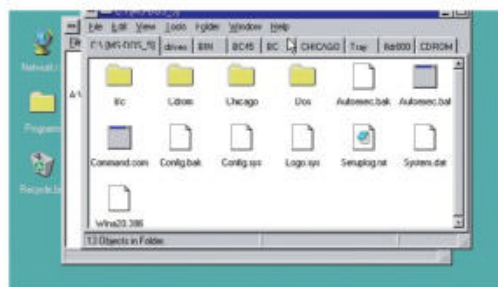
Keeping these old rigs in working order pays dividends. As the industry's remaster obsession intensifies, there's a warm, fuzzy feeling to preserving the hardware that the classic games that mattered to us arrived onto. Playing something in situ is an unrivaled thrill—and being able to do so will only become rarer as more machines are scrapped. ■

**Phil Iwaniuk**

**ABOVE:** An old gaming PC can take Windows 10 surprisingly well.

**RIGHT:** If you're running an even older version of Windows, don't connect it to the internet. Seriously.

**BELOW:** Ten years ago, they looked like rubbish. Now old PC parts are incredibly sought-after.





# BUYER'S GUIDE

Build the best PC for your budget



## KEY

### *Budget build*

PC gaming is for everyone. Pick the parts you want to build a new, well-rounded PC for a good price.

### *Mid-range build*

You want to run every new game at 1080p 60fps. This recommended build will see you through.

### *Advanced build*

You're looking for the best PC on the market and superior components. But you still want to spend smart.



# BUDGET BUILD

Enjoy 1080p gaming without breaking the bank



TOTAL  
\$998

MOTHERBOARD		<b>B660M Pro RS</b> ASRock <b>\$120</b> This is as cheap as we want to go while still offering room for expansion and upgrades down the line.
PROCESSOR		<b>Core i5 13400F</b> Intel <b>\$196</b> Intel's added four more cores to its entry-level Core i5 and it's become even more fantastic value.
GRAPHICS CARD		<b>Radeon RX 6600</b> AMD <b>\$220</b> AMD's RX 6600 has become a budget champ for its affordable price and great 1080p performance.
COOLER		<b>Laminar RM1 (included with CPU)</b> Intel <b>\$0</b> There's room for an upgrade here, but on a budget the included CPU will work just fine.
MEMORY		<b>Vengeance LPX 8GB (2x 4GB) DDR4-2400</b> Corsair <b>\$42</b> You could bump this to 16GB, but to save as much as possible we'll stick to 8GB.
POWER SUPPLY		<b>Pylon 450</b> XPG <b>\$50</b> With an RX 6600 in tow we can get away with a 450W PSU, and the Pylon is just that.
SSD		<b>MX500 500GB</b> Crucial <b>\$45</b> One of the best value SATA SSDs you can buy and plenty fast enough for a snappy OS.
HDD		<b>WD Blue 1TB 7200rpm</b> Western Digital <b>\$32</b> You don't need a HDD, so feel free to cut this to save cash, but one sure helps if you're a virtual hoarder.
CASE		<b>Zauron</b> Aerocool <b>\$60</b> This Aerocool will let your components breathe and has space for further expansion and cooling.
DISPLAY		<b>GW2280</b> BenQ <b>\$113</b> A 1080p60 VA monitor will see you through in style and, once you upgrade, will make a superb second monitor.
KEYBOARD		<b>G213</b> Logitech <b>\$50</b> It may be a membrane switch board, but it's stylish, and well-built. Sometimes that's worth more than cheap clicky switches.
MOUSE		<b>G102</b> Logitech <b>\$30</b> A classic shape delivered in a sleek shell, this mouse fits all hand sizes and grips. A solid option for the money.
HEADSET		<b>HS35</b> Corsair <b>\$40</b> This headset delivers in-game with its punchy drivers and clear microphone – perfect for video calls and multiplayer alike.



# MID-RANGE BUILD

Our recommended build for playing the latest games



TOTAL  
\$1,513

MOTHERBOARD		<b>B660M Mortar WiFi</b> MSI <b>\$180</b> This MSI board delivers everything we need in a compact package and allows us to use much cheaper DDR4 memory.
PROCESSOR		<b>Core i5 13400F</b> Intel <b>\$196</b> Yes, this is the same CPU as the budget build. It's simply too good value to miss and perfect for high fps gaming.
GRAPHICS CARD		<b>GeForce RTX 3060 Ti Founders Ed.</b> Nvidia <b>\$350</b> The RTX 3060 Ti is a little overkill but we're willing to make sacrifices elsewhere to make it work.
COOLER		<b>Laminar RM1 (included with CPU)</b> Intel <b>\$0</b> Intel bundles a redesigned CPU cooler with some 12th Gen processors. This little chip chiller will serve us well for a while.
MEMORY		<b>Vengeance LPX 16GB (2x 8GB)</b> Corsair <b>\$45</b> With plenty of capacity at 16GB, this unembellished memory has everything you need for gaming and more.
POWER SUPPLY		<b>CX650M</b> Corsair <b>\$70</b> The heart of your gaming PC is your PSU, and this 650W Corsair promises to keep your rig ticking nicely.
SSD		<b>SN770 1TB</b> Western Digital <b>\$70</b> There are faster PCIe 4.0 drives out there, but this is the best value for money SSD around.
HDD		<b>WD Blue 1TB 7200rpm</b> Western Digital <b>\$32</b> Just like in the budget build, this HDD isn't strictly necessary, but for a pretty low price it's nice to have plenty of extra space.
CASE		<b>H7</b> NZXT <b>\$130</b> It's very clever of NZXT to design such an easy PC case to build into, and make it look so gorgeous too.
DISPLAY		<b>S2722DGM</b> Dell <b>\$270</b> With a snappy 165Hz refresh rate and a 1440p resolution, this Dell is an enviable blend of monitor performance and value.
KEYBOARD		<b>Alloy FPS</b> HyperX <b>\$50</b> As the name suggests, this keyboard is built like an absolute tank, with a steel frame and Cherry MX switches.
MOUSE		<b>Model O-</b> Glorious <b>\$50</b> Lightweight and responsive, the Model O- has made a name for itself among streamers and pros thanks to its clever design.
HEADSET		<b>Blackshark V2</b> Razer <b>\$75</b> The Blackshark V2 offers up some killer audio quality to rival the greats. And at a reasonable price too.
















# ADVANCED BUILD

Go above and beyond with a PC powerful enough to end worlds



**TOTAL**  
**\$5,671**

MOTHERBOARD	 <p><b>MPG Z790 Carbon WiFi</b> MSI <b>\$470</b> This MSI motherboard brings the latest chipset to bear without going overboard on excessive features.</p>
PROCESSOR	 <p><b>Core i9 13900K</b> Intel <b>\$589</b> This is the best all-round processor money can buy. It's a little overkill, but that's what this build is all about.</p>
GRAPHICS CARD	 <p><b>GeForce RTX 4090 Founders Ed</b> Nvidia <b>\$1699</b> The RTX 4090 is immense, in every way. The performance it offers is unmatched by any GPU out there.</p>
COOLER	 <p><b>Kraken X63</b> NZXT <b>\$150</b> One of the most stunning AIO coolers rebuilt with an updated pump, LGA 1700 bracket, and RGB lighting for more pizzazz.</p>
MEMORY	 <p><b>Trident Z5 RGB 32GB</b> G.Skill <b>\$250</b> This is a new memory standard for a new era of memory speed. DDR5 is blisteringly and fantastically quick.</p>
POWER SUPPLY	 <p><b>Prime TX-1000</b> Seasonic <b>\$320</b> An ATX 3.0 PSU would also be good here, but we've tested this Seasonic and know it's worthy of such a build.</p>
SSD	 <p><b>WD Black SN850 1TB</b> Western Digital <b>\$139</b> Though technically this platform supports PCIe 5.0, for now we're sticking with WD's PCIe 4.0 speeds with the SN850.</p>
HDD	 <p><b>Crucial P5 Plus 2TB</b> Crucial <b>\$162</b> This isn't as fast as our boot drive, but it'll more than suffice for storing heaps of games.</p>
CASE	 <p><b>5000D</b> Corsair <b>\$175</b> We swear this stylish mid-tower is bigger on the inside. It's the PC equivalent of the TARDIS.</p>
DISPLAY	 <p><b>34 QD-OLED (AW3423DW)</b> Alienware <b>\$1,299</b> You could be much more sensible on your screen than this. For this build, however, we only want the best.</p>
KEYBOARD	 <p><b>G915 Lightspeed</b> Logitech <b>\$216</b> Low-profile mechanical switches are just the icing on the cake that is the superb, wireless Logitech G915.</p>
MOUSE	 <p><b>G502 Lightspeed</b> Logitech <b>\$137</b> With a lengthy battery life and a phenomenal sensor to keep you gaming at your best, the G502 is undoubtedly one of the finest.</p>
HEADSET	 <p><b>Arctis 7 Wireless</b> SteelSeries <b>\$195</b> If you've settled on a wireless keyboard and mouse, the last thing you want is a pesky cable to your headset.</p>



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Director of Development  
Xbox Game Studios, Undead Labs

**Laura Reyes, UCF '22**  
Technical Artist @  
Undead Labs

**Luminary Green Park**  
Public Park @  
Creative Village

**Karen McCarthy, UCF '13**  
Senior Character  
Artist @ EA

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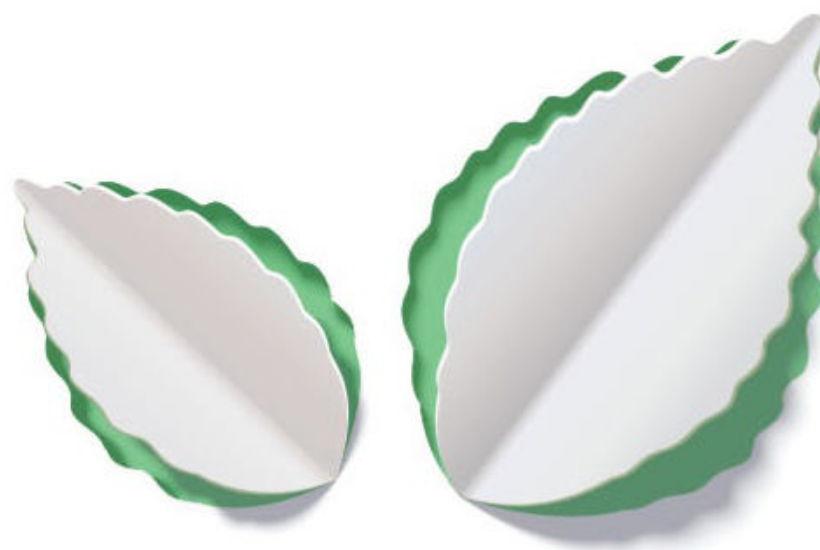
**Electronic Arts**  
Tiburon Studio @  
Creative Village

**Iron Galaxy Orlando**  
Built by FIEA Alumni  
Rakshath Kashyap, UCF '12  
Rebecca Croce, UCF '15  
Brian Rose, UCF '12  
Nick Pham, UCF '10



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Source: According to the UN Food and Agriculture Organization's 2020 Global Forest Resources Assessment, U.S. forest area expanded by an average of 605,000 acres per year between 1990 and 2020. An NFL football field is 1.32 acres in size.



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IT'S ALL OVER...

# PC GAMER TOWERS IS TARTARUS

Can the **PERSONA 3** crew  
traverse the ultimate  
Dark Hour dungeon?



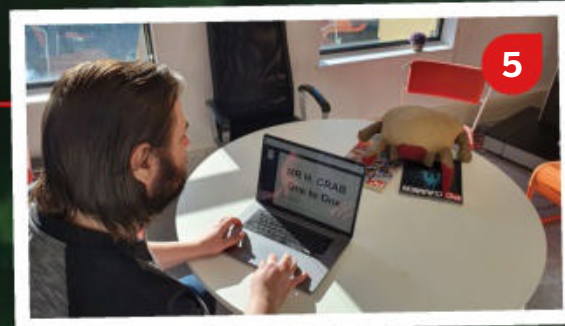
## SCUMM KARAOKE BAR

If Ken and Aegis aren't careful they'll be dancing all night, trapped by Rob 'Voice of an Angel' Jones' beastly crew of living microphones.



## HARDWARE LABS

Can Yukari and Fuuka overcome Dave James in avatar form, a monstrous Nvidia GeForce RTX 4090 adorned with a crown of bank notes?



## EXECUTIVE SUITES

PCG overlords Evan and Phil are the ultimate test for Junpei as they're in so many meetings that finding them is nearly impossible.



## EDITORIAL OPERATIONS

Robin, Rich and Tyler take no prisoners in ed ops, with Mitsuru and Shinjiro having to deal with waves of brutally random living hot takes.



## ECOMMERCE WING

Jacob and Katie's daemonic army of the best gaming chairs lies in wait here, testing Akihiko's penchant for a comfortable butt to the max.

...UNTIL **APRIL 18**





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